

**AN EVALUATION OF THE QUALITY OF BUILT HOUSING
ENVIRONMENT AND IMPROVEMENT OF QUALITY OF LIFE FOR THE
BENEFICIARIES, CASE STUDY OF WATERLOO AND QUARRY
HEIGHTS.**

By

THULUBUKE SIFISO SIKHUMBANE

2002

*Submitted in the partial fulfilment of the academic requirements for
the Degree of Masters of Housing in the School of Architecture,
Planning and Housing, University of Natal: Durban*

DEDICATION

This dissertation is dedicated to my late father Bomvana Qhudelakhalesihogweni Sikhumbane for his undying support. Without your support I believe I would be not where I am today. Many thanks Dad.

Acknowledgements

First and foremost I would like to extend my sincere thanks to Almighty God for allowing me to compile this piece of work. If you were not with me during all the difficult times of study I would not have compiled this piece of work.

I would be making a grievous mistake and I would deserve a severe punishment if I forget to pass my words of gratitude to my supervisor Mrs. Pauline Adebayo. You exercised a lot of patience, which no one could think of. Your encouragement and constructive ideas made me not to give up but to feel strong and fight forward. You have shown character, for that God I hope would keep you safe.

My words of gratitude are also extended to my friends and colleagues particularly Mr Nkosingjani Mkhize. `Man` remember when I was bitten by a dog when doing this piece of work. If it was not you who provided me with an accommodation I firmly believe this work would not be where it is today.

My words of thanks also go to my family especially my mom, Mrs. Jabulile Sikhumbane who struggled up and down. Mom you deserve more than to say thank you. I hope God would keep you to see your work.

I also like to pass words of thanks to the following people:

- Waterloo and Quarry Heights residents
- Kwa-Zulu Natal Department of Housing
- Durban Metro Housing Unit
- Waterloo and Quarry Heights Councillors
- School of Life and Environmental Sciences, University of Natal
- Durban Metro Information Office

If it was not your cooperation during the interviews this work would be still an unfulfilled dream today. I hope what you did would yield good result for future housing interventions in South Africa.

ABSTRACT

This research work evaluates the quality of built housing environment and the improvement of the quality of life for the beneficiary communities under the South African Housing Policy. It pays special reference to the Case Study of Waterloo and Quarry Heights within the jurisdiction of Durban Unicity.

In order to assess the quality of built housing environment whether it has a potential to improve the quality of life for the client communities the researcher set indicators which are: Integrated planned housing environment, residential quality, suitable building material, secured housing environments, standard of dwelling units, housing environment with economic infrastructure, housing environment that allows flexibility and extension, and housing environment that has got development infrastructure and social services. These indicators are used in this study as important tool in evaluating the quality of built housing environment.

Table of content

Chapter One: Problem statement and the research methodology

1.0 Introduction	1
1. 1 Problem statement	5
1. 2 Aims and objectives	9
1. 3 Research question	10
1. 4 Subsidiary-questions	10
1. 5 Hypothesis	10
1. 6 Definition of concepts	11
1. 7 Research methodology	13
1.7.1 Secondary data	13
1.7.2. Primary data	13
1. 7.3 Sampling procedure	16
1. 7.4 Data analysis	18
1. 8 Chapter outline	19

2. Chapter two: Literature Review and Theoretical Framework

2.0 Introduction to Literature review and Theoretical Framework	21
2.1 Theories informing the study	21
2.1.1 Neo-classical theory	21
2.1.2 Welfarist theory	23
2.3 Support Paradigm	24
2.4 Land Problem	26
2.5 Housing location and economic opportunities	27
2.6 Indicators for qualitative housing environment	29
2.6.1 Integrated planned housing environment	29
2.6.2 Residential Quality	30
2.6.3 Suitable building material	31
2.6.4 Security from inhuman conditions and security of tenure	33

2.6.5 Standard of dwelling units	34
2.6.6 Local economic development initiatives	35
2.6.7 Enough space and flexibility	36
2.6.8 Availability of infrastructure and services	37
2.7 The status quo of housing environment	37
2.7.1 Shortage social services	38
2.7.2 Overcrowding and lack of privacy	41
2.8 Housing Quality and international experience	43

3. Chapter Three: Historical Background of the Case Study Areas

3.0 Introduction	46
3.1 Historical Background of Quarry Heights	46
3.2 Historical Background of Waterloo	50
3.4 Concluding Remarks	52

4. Chapter Four: Case Studies, Findings and Analysis

4.0 Introduction	54
4.1 Employment status	
4.2 Average monthly cost on transport per household	56
4.3 Period of Stay	57
4.4 Beneficiaries` previous housing environment	59
4.5 Comparisons of the housing environments	60
4.5.1 Quarry Heights Housing Project	
4.5.2 Waterloo Housing Projects	
4.6 Construction defects in Waterloo and Quarry Heights	61
4.7 Satisfaction about plot sizes	63
4.8 Constraints caused by plot	64
4.9 Satisfaction with the quality of construction material used	66
4.10 Privacy level	67
4.11 Satisfaction of residents by the orientation of housing units	68
4.12 Level of security in Waterloo	69
4.13 Feelings about service delivery in	

Quarry Heights and Waterloo	73
4.13.1 Electricity	73
4.13.2 Water/sewerage	74
4.13.3 Waste management	75
4.13.4 Telephone service	76
4.14 Accessibility of Public Facilities in Waterloo	78
4.14.1 Shopping	78
4.14.2 Sport facilities	79
4.14.3 Educational facilities	80
4.14.4 Health facilities	80
4.14.5 Community hall	81
4.15 Accessibility of Public Facilities in Quarry Heights	
4.15.1 Shopping	82
4.15.2 Sport facilities	83
4.15.3 Educational facilities	83
4.15.4 Health facilities	84
4.15.5 Community hall	85
4.16 Availability of Transport in Quarry Heights and Waterloo	85
4.17 Affordability of services	86
4.18 Satisfaction and housing needs	88
4.19 Shortage of aesthetic qualities	88
4.20 Infrastructure developments	89
4.21 Concluding Remarks	91
5. Chapter Five: Findings, Recommendations and Conclusion	
5.1 Conclusion	93
5.2 Recommendation	95
5.3 Bibliography	102
5.4 Appendices	

Chapter One

Problem Statement and Research Methodology

1.0 Introduction

The South African housing policy envisages or defines housing as a total living environment. This means that housing is a holistic entity in the sense that one can not put houses without infrastructure and social services and expect that the environment created will be referred to as housing. According to the Housing Code (1999), section 26 of the Constitution states that all South Africans have a right to access adequate housing. Adequate housing will mean availability of improved built environment and the quality of life to the beneficiaries. The right to adequate housing is also internationally recognized but despite this recognition less than a quarter of countries include this right in their constitution. As far as all basic human rights are concerned, the right to adequate housing is one of the most essential human rights. It is argued that if this right is not met one can find it difficult to fulfill other basic needs such as clean water, health, learning, energy, and identity in that regard right to adequate housing is more than just a right to a form of shelter. There is a controversy over the use of the term "adequate housing", as the built housing environments in South Africa particularly do not prove to be adequate. This has raised many concerns by the analysts over the housing environments being created, as they become increasingly vocal about nature of its quality. The Mail and Guardian, 13 October 1994 argued that many of the houses built for the poor since 1994 elections are a sorry affair. They are tiny, often no

different to the regimented matchboxes constructed by past apartheid government (Haffajie 1997). This article continued to argue that the regimented rows built up so close each other are called "uvezanyawo" meaning your feet appear outside or can be seen outside while you are in the room. This emphasizes the point that the dwelling units are small in a way that your feet can stick out through the window when you are sleeping. The point is argued further that although tenure and infrastructure and usually the top structure are being delivered, housing policy and new housing projects have been criticized on a number of grounds that the dwelling units tend to be of generally poor design, environmentally unsound, unsuited for local climate, and relatively expensive to maintain at a physically comfortable indoor climate (BESG, 2000b). Moreover housing environments are criticized that they themselves are environmentally unsound, and not conducive to social, economic, aesthetic, or environmental sustainability. Housing provision for the low-income group in South Africa has been a problem that needs creative and valuable effort in order to achieve quality that can improve the quality of life for the beneficiaries. Several programmes and strategies that have been attempted to combat housing backlog seem to offer little satisfaction or have not met the real needs of the beneficiary communities. Since the quality of housing environments for low-income groups have not met their needs, lots of debates and arguments have emerged. The analysts of the built environment have criticized the current housing delivery system that it tends to focus on houses as the only entity without the social services and economic activities that support it. The approach in use in the current housing provision fails to understand that adequate housing is a

transport related issue in that housing located far from opportunities imposes unnecessary burdens on the beneficiaries in terms of time and cost spent on traveling (Built Environment Support Group, 2000a). The right to adequate housing is also an educational issue in that housing that does not provide well-lit, ventilated and electrified space makes it very difficult for children to do their homework in and for people to read. The above mentioned is the characteristics of the type of the housing environment we have today for low-income groups. Despite the above mentioned it is also an economic issue because the construction of houses creates jobs and results in an asset for a household and it is an economic issue in that people also need shopping places in their housing environment. Built Environment Support Group (2000a) further argues that this right is also a recreational and social related issue since people need space for relaxation, exercising and learn about nature, play and socialize with family and friends. The right to access to adequate does not end there but also entails communication services since people need to have personal access to conveniences such as telephone. The right to adequate housing is also a safety and security issue in that people need a safe place to live. The right to adequate housing is also an environmental related issue in that adequate housing needs to sustain the environment by not interrupting the natural flows of storm water, reducing erosion, through the planning of trees, grasses and plants and keeping nature in the city. Another issue related to the right to adequate housing is that it is a health issue in that people suffer from contaminated water, dampness that seeps through unprotected walls and floors, promoting the growth of moulds that contribute to asthma and other lung

infections and the social difficulties of overcrowding and the increased risk of catching germs. Lastly right to adequate housing is a political and gender issue. It is a political issue in that a person without an address is unable to participate fully as a citizen in all activities of modern urban life and it is gender related issue in that women suffer most from not having legal rights to housing and that typically women spend more time in houses than men (Built Environmental Support Group, 2000a). The above-mentioned issues have affected the quality of built environment.

The Department of Housing (1994) argues that, government is striving for the establishment of viable, socially and economically integrated communities situated in areas allowing convenient access to economic opportunities as well as health, educational and social amenities within which all South African people will have access on a progressive basis to a permanent residential structure with a secure tenure, ensuring privacy and providing adequate protection against the elements and portable water adequate for sanitary facilities including waste disposal and domestic electricity supply. Looking at the above broad vision one can see that there has been some failure on the hands of the government to achieve it. Oloefse (1999) argues that solutions to the housing crisis have been technical focusing on the delivery of housing units rather than on the creation of viable and sustainable homes and neighborhoods. The quality of built environments that have been created do not reflect what the housing policy states as its vision. There are number of things that are missing and need to be addressed to produce quality housing environment that can improve quality of life

for the beneficiaries. This work then evaluates the quality of built housing projects to see whether the holistic approach to housing has been achieved and to find out whether these built housing environments have improved the quality of life for the beneficiaries.

1.1 Problem statement

As mentioned already, the Department of Housing (1994) in its Housing Policy argues that the government is striving to bring about good quality of life but the existing evidence of the built housing projects prove that there has been some failure on the hands of the government to bring about good environmental quality. One can even argue that the developers have used the dormitory approach in providing or building these housing projects. The built housing projects are dormitory environments, which do not reflect what is said in the White Paper on housing terms of quality. The right to adequate housing with a potential of addressing the socio-economic needs of the beneficiaries has been neglected in the housing environments for low-income groups. This point has been argued further by Dewar (1991) that in South Africa a majority of the housing projects are merely agglomerations of accommodation and are extremely limited in economic, social and cultural opportunities (Pama, et al 1977). Dewar continues to argue that new residential areas are almost entirely dormitory areas and people are forced to travel considerable distances to their work places. The current situation in South Africa is characterised by huge rate of unemployment, so this work looks closely at what has been done in these built housing projects to create or develop local economies. Apart from that this work looks at

the quality of houses themselves. The building material used, orientation of houses, level of services, availability of the services that support recreational, social, economic, educational activities and neighborhood and privacy which are some of the things that cause these built housing environment to be mono-functional and unsatisfactory if not properly provided and organised. Consequently the quality of life for the beneficiaries ends up affected. Looking at the quality of the dwelling units itself, it is crucial to question the government subsidy principle of breadth over depth because it is where the problem starts and seems to go unnoticed. The subsidy policy is based on the principle of width versus depth implying that more families receive a smaller subsidy rather than fewer families receiving a larger subsidy (Department of Housing, 1994). This government's subsidy principle is based on trying to reach the target number of houses promised by the government. With the need to deliver little acknowledgement has been given to quality and that has impacted on the quality of housing environment and as a result the quality of life for the beneficiaries is affected in various ways. Malan (2000) argues that pressure has superceded quality and sustainable considerations, which in the long run results in dwellings that are only a marginal improvement from the existing shacks. This has been witnessed in some of the housing projects where the standard of dwelling units is deteriorating. The land in which these housing environments are built causes threats to the beneficiary communities since some are built on unsuitable land that is not recommended for housing development. The following projects show the problem around the issue of built housing environment and their location. Sowman and Urquhart (1998)

argue that in the Eastern Cape informal settlers were relocated to an area close to sensitive coastal dunes; as a result the geology and drainage of an area results in groundwater coming to surface during rainy periods. It is argued that installing services in this wet area has meant that storm water drains are constantly filling with sand and sewerage systems become flooded. In another project in Soweto, Inanda in KwaZulu-Natal pit latrines were built on the banks of a stream and when they get flooded, wastewater seeps into stream leading to a health risk. In Hornlee, Knysna in Western Cape, low-cost housing was built on south-facing slopes. It is argued that the slopes are less exposed to the sun and they often have a higher rainfall than north facing slopes. The houses are then becoming damp during wet periods and this exacerbates high incidence of tuberculosis and that results to high health risks. According to BESG (2000b) damp housing can be considered to be a contributory factor to rheumatism, arthritis and respiratory diseases such as pneumonia, bronchitis and upper respiratory infections. Viruses and bacteria also thrive in most conditions and dampness encourages dust mites and the growth of moulds and fungi, which is source of respiratory allergens. In another project in Ivory Park, Midrand in Gauteng an informal site and service scheme was located in area where vegetation had been cleared. Sowman and Urquhart (1998) argue that the place is very dry and sandy and as a result people often experience problems in keeping dust and sand out of their houses. The beneficiary community also complains that washing gets dirty from dust and those people with respiratory problems also suffer. Another housing projects in Bramfontein near Soweto is said to be at just a stone's throw from a mine damp and when the wind blows

schools in nearby this mine have to be closed. All the above-mentioned projects indicate the problems that are prevalent in some of the housing environments created for low-income groups in that regard the quality of built housing environment and the quality of life is affected by poor planning done by the officials of the these housing projects.

Equally worrying to aforementioned problems is the fact that infrastructural development and level of service delivery has occurred in a limited sense in some of these built environments and it has hindered the quality of life in one way or the other. To give an example Mohlala (2001) argues that in one of the sprawling townships near Soweto in Bramfontein residents are complaining that basic services and infrastructure are not in place (Mail and Guardian 31 August, 2001). This housing environment has no proper roads or streetlights. Where infrastructural developments have been provided they are characterised by sprawl or fragmentation. This means that the development of infrastructure is not integrated to the whole system of development in a manner that is convenient for the beneficiaries. In some other places they are non-existent at all. This has been supported by Moller (1995) as he argues that not every peri-urban and rural household in South Africa have access to a flush toilet or piped water. In Bramfontein, it is argued that where water is supplied pipes are leaking and some residents complain of irregular water supply (Mail and Guardian, September 6 2001). Some of these built housing environments have poor quality of infrastructure and that impacts negatively on the lives of the beneficiary communities. Apart from the above mentioned

it has been recognised that little or nothing has been done to mobilise local economic development initiatives in support of those built housing environment. Local development initiatives focus on the development of areas as opposed to regional or national developments. It is argued that local councils that are eager to promote the development of their environment generally undertake this form of development. This dissertation looks broadly to the issues that affect South Africa so that it has not attained its goal of providing housing environment that will improve quality of life for the beneficiaries. The following indicators are in this research work used to test whether the built housing environment is of good quality with a potential to help and improve the situation of the beneficiaries.

1.2 Aims and Objectives

It has been recognised that, South African Housing Policy has got some wonderful visions that it intends to achieve, among them a good built environment that will improve the quality of life. This work then intends to bring to the fore failure by the government with regard to housing provision and quality. The intention is to bring some questions to the policy makers and implementers to see if they have achieved what the policy intends to achieve.

The second objective of the study is to bring some useful suggestions and ideas that can help the government to achieve what it intended to achieve with the housing policy.

The final objective of the study is to put to the fore housing issues that have not been addressed by the

developers but constitute quality of built housing environment and that can improve the quality of life for the beneficiaries.

1.3 Research question

1. Have the built housing projects offered acceptable quality of life in the context of housing in line with housing policy `s objective of improving the quality of life for the beneficiaries?

1.4 Sub-questions

1. How have these built housing environments contributed to improving the quality of life of the beneficiaries?
2. What constraints do the beneficiaries of the housing environments created experience when they want to improve their housing environments?
3. Which socio-economic aspects need to be provided to improve quality of life in these built housing projects?
4. How can the built housing environments be planned to improve quality of life for the beneficiaries?
5. To what extent are the built housing environments integrated to the whole economic system of Durban Metropolitan Area?
6. Which type of housing environment can improve quality of life for the beneficiaries?

1.5 Hypothesis

The built housing environments for low-income groups are dormitories that have not met the social economic needs of the beneficiaries and have been unable to confer the quality of life of a holistic housing programme envisioned by the

Housing White Paper (1994) and for improving the quality of life in these built environments adequate housing has to be provided for the beneficiaries.

1.6 Definition of concepts

Built housing projects

This refers to those housing projects that have been built to improve living conditions for the low-income people from 1994 onwards within the government 's programme initiated under the Housing White Paper as the basic housing policy orientation document and driven by the late Minister of Housing, Joe Slovo and later by his successor Ms Sankie Mthembi-Mahanyele.

Built environment

This refers to a man-made environment. It in the context of this study, it shall refer to those built housing environments that have been created, in particular housing projects for low-income groups. Urbanisation, infrastructure and services, transport, energy and waste form the component of the proxies of the built environment.

Dormitory

This refers to a mono-functional place that is used for sleeping only. In other words it refers to a residential area with no business activity, places of employment, and shopping facilities.

Beneficiaries

This refers to the end-users of the built environment, which in this case are the poor people earning less than R3500, 00 per month and who have benefited from the implemented

projects under the government `s post-1994 housing policy and subsidy scheme.

Quality of life

Refers to the acceptable standard of life that allows people access to opportunities and some sense of satisfaction with their living environment. There are certain indicators used by the researcher to assess the quality of life in housing environments such as socio-economic integration, access to facilities, being exposed to social infrastructure, being exposed to economic opportunities that help to develop your housing environment, and neighborhood. The term "quality of life" means daily experience of citizens and communities where all enjoy food security, decent safe and secure living environment, good health, adequate income, access to transportation, leisure opportunities, access to education, technology and educational opportunities, clean natural environment, opportunities for self advancement, freedom to act, strong sense of belonging and civic pride. (Office of the Mayor of Ethekewini Municipality, 2001). In this study the use of the term will bear resemblance as used by the Office of the Mayor.

Holistic housing programme

This refers to the programme that treats housing as total living environment. Housing in this context is not treated as a top structure only but as a complex entity that involves social infrastructure, social facilities, and economic infrastructure and job opportunities within a housing environment.

1.7 Research Methodology

The researcher used two sources of data, secondary and primary data that will be outlined in the following sections.

1.7.1 Secondary Data

Data was collected by consulting secondary sources of information. The library was used to get information that was likely to address the topic. The most reliable sources of information were books, newspapers, journals and unpublished papers. The books provided useful information more especially in theoretical framework of the study specifically. Other local case studies were used to place the study in broader context. The researcher visited Durban Municipal Resource Centre to get information on reports done on the quality of built housing environment in addition to using University of Natal library to get useful material. Beside that Built Environmental Support Group resource center was also used to get information to get kind of information that supported the literature framework of the study.

1.7.2 Primary Data

Primary data was collected through conducting interviews and questionnaires to the beneficiaries and developers of the built housing environments specifically in the two chosen case studies. Participant observation played a crucial role for the researcher to collect information. The researcher observed the extent to which these built housing environment are integrated locally and into the wider economic system of the city. Interviews and administering of questionnaires to the parties concerned assisted the researcher to establish

the extent these housing environment are integrated to the wider economic system of Durban and to establish whether these housing environment are of good quality that they can improve the quality of life to the beneficiaries. Participant observation played a crucial role in collecting the information that is greatly concerned with the quality of built housing environments.

Local councilors: Mr. L. Naidoo and Mr. Ganesh

The researcher scheduled interview meetings with two local councilors of the case study areas and held interviews with them separately. Mr. L. Naidoo of Waterloo and Mr. Ganesh of Quarry Heights are the councilors that were interviewed. Information that was elicited from the local councilors was to find out the perceptions they have about the quality of these housing environments and their ability to improve the quality of life for the beneficiaries. Local councilors were used as primary sources of information because they know the problems the beneficiaries experience since they work in community as the representatives of the community. Apart from that the local councilors were used as the primary sources of data to find out information related to the complaints about the housing environment from the community as far as the quality of services and any attempts that are underway to address the situation.

Metro Housing Unit

An interview with Durban Metro Housing Official was conducted. Information related to planning standards and level of service related information was the reason behind conducting an interview with Mr. Maurice Makhathini. Despite

that information related to any attempts that are being carried out by the city of Durban to improve the housing environments and the quality of life for the beneficiaries was elicited since these case studies are within its jurisdiction. It was also crucial to find information related to the aesthetic quality and contribution of these case studies in relation to the city of Durban.

Official from the Provincial Housing Department

The researcher also scheduled an interview with an Assistant Director responsible for policy implementation from Provincial Housing Department. The intention behind setting up an interview with Mr. Winston Oak was to find out the status of the provincial housing department particularly the Policy Division about the quality of built environment and its ability to improve the lives of the beneficiaries. If it has not been achieved then what do they think should be done to implement what the policy exactly says. The other information that the researcher was looking for from the Provincial Housing Department was the information related to any programs on the way to help the monotonous situation and appalling living conditions in these housing environments.

Beneficiaries

As mentioned already questionnaires were administered to the beneficiaries to find out whether the built housing environment had met their socioeconomic needs other than providing them with shelter. The open-ended questionnaires that seek a direct answer were administered to the beneficiaries. Open-ended questions were asked that allowed the respondents to voice out their feelings about whether

the built housing environment had improved the quality of their lives. Open-ended questionnaires also allowed the respondents to describe their opinions further without restrictions. The closed-ended questions that needed the respondent to choose a direct answer that explains the situation in their environment were conducted.

Developers: Durban North Local Council and BGM Condev (Waterloo) and Metro Housing Department and Effingham Housing (Quarry Heights)

Developers of the case studies were interviewed since they were the ones who were responsible for implementation of these housing environments. It was crucial to interview developers because they understood the dynamics of housing development and they are the ones who experienced the constraints if there were any when the development of these housing environments was taking place. It was crucial to find the development constraints that stood on the way of the developers so that they could not achieve a good quality-housing environment. So it was crucial to get first hand information from the developers of the case studies to find out whether they have achieved what they wanted to achieve. Interviewing the developers was of great importance in order to make recommendations, which future developers should take into consideration.

1.7.3 Sampling procedure

The researcher used stratified random sampling to select beneficiaries who served as the informants. The residents were divided into subpopulation called strata and from each strata the respondents were randomly selected to represent

their strata. The reason behind using stratified random sampling was the fact that the researcher understands that different gender and age groupings constitute the beneficiary community of these built housing environments and are being affected by its quality differently since they have different needs. This is based on the fact the built housing environments tend not to cater the needs of the women as they have triple role to play in the communities (Moser and Peake, 1987). On the point of age, the quality of built housing environment does not have enough recreational facilities for youth particularly, as the result youth turn to crime and delinquency. Respondents were categorized according to age and gender grouping. Waterloo consists of 30 000 households and Quarry Heights consists of 10 000 households. In each and every household at least one respondent was interviewed. In each and every case study, out of the total population the researcher used 30 respondents. The reason behind using this sample size is the fact that the researcher believed that the size was big enough to present all the population of the case study areas. The other reason for using this sample size is that this was the realistic size to deal with. All the respondents who were less than 21 years of age were categorized as youth and those who were beyond 21 years were categorized as adult. The respondents were prepared to assist by answering the questionnaires and were in the position to respond to questionnaires since they were the ones affected by quality of housing created. From each family unit that was sampled at least one person responded to the questionnaire.

1.7.4 Data Analysis

The data that was collected from Waterloo and Quarry Heights beneficiaries through questionnaire survey and the interviews conducted with local councilors, Provincial Housing Department Official, and Durban Metro Housing Official were analysed and interpreted by the researcher to answer the research question and to test the hypothesis. The study is descriptive and graphs and tables are used to analyse data. A map was also used to help the researcher to show the readers the location of the Case Study areas in relation to the whole City of Durban because location is one of the aspects that affect the quality of built environment leading to life quality decline of the beneficiaries. Photographs also played a crucial role in giving the picture to the readers of the quality of the top structure, the quality of building materials used, and the quality of housing environments at large.

1.8 Chapter Outline

Chapter 1

This chapter introduces the following things: the research problem, research question, sub-questions, the area of study which is South Africa specifically Durban Metropolitan Area, and hypothesis. It is in this chapter where the concepts are defined. This chapter also covers the methodology and Primary and Secondary sources of data that were used to collecting data.

Chapter 2

This chapter involves literature review and theoretical framework informing the study. It is in this chapter where arguments are raised as far as the quality of the built environments is concerned. This chapter gives the features of the current built housing environment based on Dewar `s work as well as others. Secondly it is in this chapter where the indicators for assessing the quality of built environment are given and discussed. Lastly this chapter gives some mechanisms that need to be followed when one plans to build a good quality-housing environment.

Chapter 3

Chapter three looks at the historical background of the case studies. This allows the researcher to see how the housing environments have changed from their inception up to now. This helped to understand whether the built housing environment has managed to change the lives of the beneficiaries.

Chapter 4

It is in this chapter where the researcher analysed and interprets data that was collected from the case studies and presents the findings of the study. This chapter analyses

issues concerned with the quality of the built housing environment. It is in this section of the study where it is made clear whether the visions of the housing policy have been achieved. It is in this chapter where graphs, tables and photos appear as an important component in analysing data.

Chapter 5

It is in this chapter where summary of findings, recommendations and concluding comments based on the whole research findings are made.

Chapter 2

Literature Review and Theoretical Framework

2.0 Introduction to literature review and theoretical framework

The issue of housing in South Africa is one of the major concerns that have negatively affected many people. Different theories have emerged to explain the role that the government should play and the issue has been handled with great care by the governments from different countries although they have experienced sporadic problems. As a result the South African government has come out with different measures from the apartheid government to address the housing backlog. An attempt by the government to overcome the situation has resulted in a new form of built housing environment being created and it has been stigmatised. The built housing projects are labeled by different names that stem from the fact that these housing environments are not conducive for human habitation. Housing analysts refer to these housing environments as, toilets of the city, matchbox, dormitories and dumping sites for the poor, to mention but a few.

2.1 Theories informing the study

There are two theories that have informed this study and they are the following: neo-classical theory and welfarist theory.

2.1.1 Neo-classical theory

Neo-classical theory stems from capitalist theory. Forder (1984) argues that neo-classical economic theory is a normative theory as well as a positive theory as it sets out

to describe the conditions that will produce best possible outcome as well as to explain the actual distribution of production and consumption. In normative terms the neo-classical economics propose that the operation of a free competitive economic market with processes determined by supply and demand would ensure the most efficient use of resources. As a positive theory the neo-classical economists tend to see the causes of the failure of distribution of resources not in economic system but in the performance of individuals within the system. As far as housing is concerned neo-classical theorists have mainly been concerned with questions of residential location, changes in house prices, distribution equity and housing policy. This theory is concerned with removing barriers to the efficient operation of the housing market. The advocates of this theory argue that the market plays a role in the location of the poor. The land is said to be expensive where there are enough opportunities as a result of which the poor end up located where land is cheap. The advocates of this theory call for the government to intervene to make the market work for those people who cannot afford to buy in the open market and this is expected to improve the quality of these built environments. This has been subject to criticism as the planners and developers argue that the reason for locating the new low-cost housing on the urban fringe and where land is cheap is that there is shortage of land in urban areas. This theory helps to understand the quality of housing environment for low-income groups as a result of operating market forces in land allocation as the result the poor people who are the beneficiaries of these housing environments get affected, as they have to pay commuting cost.

2.1.2 Welfarist theory

Nevitte (1977) argues that welfarist theory was founded upon the universal principle of social justice where institutions that create and uphold the right to property should satisfy the concept of justice. This theory was used by both capitalist and socialist countries in the period of 1940's to 1970's (ANC-COSATU CIVICS, 1991). The Socialist countries believed that housing, like health and education is a service which is the responsibility of the state to provide and Capitalists countries believed that certain goods and services which were essential to the smooth running of society and which could not be provided by the private sector had to be provided by the state. ANC-COSATU CIVICS (1991) argues that the delivery approach of this theory all the different tiers of government control almost all the housing activity. According to this theory housing is a social right for which the government should take primary responsibility. According to the principles of this theory housing is viewed as an entitlement that everyone should have. The advocates of this theory call for the government to take an active role in housing provision. The government should make sure that people get housing environment that will improve their quality of life other than the one that has been created by the South African government. Land issue should be addressed so that people are located in the areas that allow convenient access in relation to services and economic opportunities. This theory then informs this study in that it is government who has to take prime responsibility for the well being of its citizens. The government should see to it that the built housing environment meets the acceptable quality and beneficiaries

are exposed to the housing environments that satisfy their needs. The critique of this theory has been that it has a very narrow conception of housing, technocrats determine what an adequate housing should be, it is rigid and lacks flexibility since it does not allow community participation, bureaucratic allocation of houses is open to bias, inefficiencies and corruption, it does not allow finance from the private sector and individuals to be mobilized for housing. It has also been criticized because it creates dependency, monotonous dormitory suburbs, and high housing expectations. The positive aspect about this theory is that the rate of housing production can be very high and it caters for the poor. It also allows for programmes to provide for housing and for equitable distribution of resources.

2.3 Support Paradigm

This is an approach that is based on the idea that the government should give support to the beneficiaries to a certain extent and from there onwards beneficiaries are expected to proceed to develop their housing environment. According to Turner (1976) housing constitutes a problem when it acts as a barrier to a personal fulfillment or as a burden on society as a whole. The support approach then calls for support of the poor who cannot afford to provide themselves with housing to be supported by government to achieve it. This approach has been determined by its overall commitment to what has been termed the incremental approach to public housing provision. Spiegel et al (1996) argue that this approach sometimes labeled more prosaically as, aided self help is closely associated with what has undoubtedly become incremental approach during the 1980s in housing

policy and practice internationally. The defining characteristics of policies in terms of incremental approach or support approach is the acceptance that public intervention in housing provision should be limited to the provision of the serviced site, possibly with some minimal top structure where beneficiaries can continue to construct with their sweat equity. This approach informs my study in that some of the projects that have been built in the form of site and services are appalling because people are unable to proceed to consolidate their housing environment. This approach informs this study since the South African housing policy is formulated around the support paradigm, where state assistance is given in the form of capital grant and then the beneficiaries take over the process of housing provision in an incremental manner (Adebayo and Adebayo, 2000). So where people have been given support to proceed or to build their houses there has been some failure as the result that has affected the quality of these built environment. Adebayo and Adebayo (2000) argue over this point as they state that constraints in improving housing for low-income groups however continue to be experienced in the areas of affordability, the impact of health on housing development, and planning, design and management of resultant built environment. Dewar (1995) argues that within housing environments created for low income groups, the possibility of an individual to recognise an opportunity and capitalise on it from his own backyard is limited by land use controls and building regulations which are based on implicit belief of separation. In this regard it is crucial to come out with a solution that can help people to have access in improved housing environment that will ensure the improvement of their lives. The government has to support

people by giving them an enabling housing environment to help themselves. The question to be asked in order to offer a useful support to the people should be "what support do people want that can improve their housing environment and lives"?

2.4 Land problems

The process of accelerated urbanisation when combined with the industrialisation process, which is taking place in some of the countries of the continents, the general scarcity of resources and usual high uneven distribution of resources causes serious problems within urban settlements, especially the larger cities (Mabogunje, 1978). These urbanisation and industrialization processes have major impact on urban land as the land shrinks. This has meant that people should compete to access land, which is a scarce resource. Mabogunje argues that the lower income groups have been acutely affected by the change in the environmental conditions caused by urbanisation process and recent technological development because they do not have free choice of their location within the agglomeration. The land on which urban activities take place is of utmost importance in determining the environmental problems of human settlements. Mabogunje argues, that in most of Latin America, Asian, and African countries the practically uncontrolled operation of urban land market and processes of wealth concentration in the market are main causes of environmental problems at this level. This then impacts on the quality of life for people as Mabogunje (1978) argues that environmental quality has got an impact on the quality of life. It is the shortage of land that makes the decision-makers to make uninformed decisions to locate low-income

groups in the remote areas. The topography and the shortage of land are the critical issues central in locating the low-income groups. In some of these built housing environments people are located on steep slopes and this hinders the beneficiaries from improving their houses even if they happen to access means of improving their housing environment. The immediate and complete provision of houses for the low-income groups is of no particular relevance in solving their problems unless the basic social economic conditions that brought about the massive housing problems are rectified or addressed.

2.5 Housing location and economic opportunities

Beside the location issue of these housing environments on slopes there is another location issue that affects the quality of these built housing environments. The location of housing environments for low-income groups in relation to job opportunities has affected the quality of built housing environments and the quality of life for the beneficiaries. The township housing development system was criticised, as a dormitory housing that did not offer beneficiaries socio-economic opportunities. However the quality of the built housing environment that is being created for low-income groups has no difference to the old one, as beneficiaries are still located in urban fringes where land is of low value and quality. Dewar and Uytenbogaart (1995) argue that lower-income people live further and further away from the higher order commercial and activity nodes of the city and the resulting processes increase their cost of living. The present locational characteristics are contributing to inequality and poverty in that the development is still

based on the pattern of separate development peculiar to South Africa for ideological reasons (separate development). The poor people are still agglomerated and removed from the wealthy classes. Spiegel et al (1996) argues that the spatial marginalisation of the poorest sector of urban population from those areas where job opportunities and public facilities tend to be concentrated imposes major costs on households. It is argued that the transport cost incurred by living far away from the city affect the quality of life for the beneficiaries of these housing environments as the money spent on transport can be used for other purposes such as education, house improvement, recreation, and to savings. The location of the poor to the periphery has been criticised. According to Mills (1993) the townships do not have the value or potential to house the poor in South Africa. Mills has criticised the system of location as he argues that the system is unacceptable on several levels. Socially both residents and outsiders experience these housing environments as sterile and anti-social and dangerous environments. Secondly, in political terms these housing environments are widely considered as an imposition by the state, which has been used as a control mechanism. Architecturally, urban designers and architects find little scope within the regulations governing the layout of houses to make a meaningful development effort through the design. Morphologically, it is argued that these housing environments are spatially fragmented and segregated and that has meant increased infrastructure cost and heightened crime levels. It has been concluded that an improvement of journey to work relationship can bring about substantial benefits to the poor people. Given that the issues of location of the low-income groups to improve their quality

of life need to be reviewed if any housing environment is created.

2.6 Indicators for a qualitative housing environment

The City of Tygerberg requested that Key Performance Indicators be identified as evaluation tools as requested in the Municipal Systems Bill of 1999 (Malan, 2000). Having been informed by that request of the City of Tygerberg, the researcher established certain indicators as assessment tools for the qualitative housing with a potential to address the needs of the people. The following eight indicators will be used to assess the quality of built housing environment that can improve the quality of life for the beneficiaries. Integrated planned housing environment, residential quality, suitable building materials, dwelling standards, economic opportunities within housing environment, availability of infrastructure and services, security from inhuman conditions and security of tenure, availability of space to extend, are crucial housing aspects that indicate the quality of housing environment that is most likely to solve problems of the beneficiaries. In the following paragraphs the above-mentioned indicators are discussed one by one.

2.6.1 Integrated planned housing environment

Integrated planned housing is one indicator of the qualitative housing environment. Integrated planned housing environment can be achieved through using integrated development planning which is the process that aims to maximise the impact of scarce resources and limited capacity through planning development intervention in a locality

strategically and holistically (Mohamed 1997). Integrated planning may be used to plan in different spheres: it can be used locally, provincially, and nationally. A built environment planned in an integrated approach is the one that is able to give people wide variety of opportunities that are within reach. A quality built environment is one that allows accessibility. Accessibility is about how easily people can travel in, out and within that particular built environment. A well-planned integrated development will enable people to get to the places they want to go without spending much of their time and money on traveling. The point has been taken further by Prinsloo as he argues that healthy human settlements should provide beneficiaries an environment where they will have vital, dynamic relationship to the greater urban system which includes the development of positive dependency for example development of employment opportunities and appropriately trained employees, mutual beneficial, cultural and recreational facilities, good transport links and a high standard of services (as cited Lazenby, 1977).

2.6.2 Residential quality

Residential quality is another indicator for the quality of ^{HS} built environment. Cox (1979) defines residential quality as the desirability of the residential environment. It is argued that desirability depends on individual preferences and for one to explicate the concept of residential quality it is crucial to consider both preferences and residential environment. Given the above argument one can conclude that the quality of housing environment depends on its ability to meet preferences of the beneficiaries. It is crucial to understand the preferences of the beneficiaries if any

housing environment is to be built. Residential quality depends on the ability to cater for the needs of all people irrespective of race, gender, age and as well as the state of their well-being. The physically handicapped people should be catered for to ensure that the built environment is of acceptable quality. The built housing environment should cater for the needs of women since they are the ones who use more of these housing environments as compared to men (Moser and Peake, 1987). A good quality of built environment should be one that is able to satisfy basic human needs. In this regard need objects or satisfiers may be anything: food, shelter, medical care, schooling, closeness to oneself, closeness to working place, protection from the hazards of natural environment and social environment, patterns of choice in crucial fields, satisfying a need for some form of freedom (Galtung et al 1982). For the built environment to assume the status of being a quality environment it should be able to offer the afore-mentioned aspects.

2.6.3 Suitable building materials

Suitable building materials would help to achieve energy efficient, comfortable, and stable built housing environment that is most likely to meet the needs of the beneficiary community. Spence argues that every UN report of housing in low-income countries identifies shortages and high prices of building material as crucial constraints to improving the housing environments (Allen et al 1992). Due to lack of construction materials the quality of built housing environments is affected. The suitable building materials used when building low-income housing environments is another useful indicator for assessing the quality of built

housing environment. Specifications and building standards contribute to the quality of housing environment. It is crucial to build a housing environment that will accommodate seasonal climatic conditions. The building material should be good enough, that beneficiaries should not find themselves in a situation where they have to frequently maintain their houses because of the poor material used. The building materials used are also influential to the microclimate within the house itself. With regard to temperature climate of building should be comfortably cool during the summer (Allen et al 1992). This means that in winter buildings should be comfortably warm. This can also help the beneficiary communities not to spend money on buying cooling and warming appliances that will increase cost of their living. This point has been taken further by Sowman and Urquhart (1998) as they argue that there are various environmental aspects that need to be considered to construct and design housing environments of good quality. They argue that the dwellings' orientation to the sun, position of windows, and use of specific materials for insulation and design of roofs all make a difference. It is argued that if foundations are properly done they can be of great importance in improving the living conditions of the habitat. Foundations are the substructure of a house and make top structure more stable and firm so the use of prescribed material is recommended. Poor substructure leads to crack in walls and that can cost the beneficiaries lot of money to maintain their housing. Earth floor with no slap is criticized in that it allows continual penetration of water from the ground as the result the floor gets damp and cold (Built Environment Support Group, 1999). Building materials used also have got an impact on health of the beneficiaries.

The use of materials such as asbestos is argued to have long-term effects with the release of asbestos to indoor environment, due to the friable characteristic of asbestos. Asbestos fibres can cause diseases such as lung cancer and asbestosis (BESG, 2000b). So the use of construction materials that would not impact negatively on the lives of the beneficiaries is recommended and where it is not possible the quality of the resultant environment is questionable.

2.6.4 Security from inhuman conditions and security of tenure

The quality of built housing environment should be the one *BM*
that gives people security. In this context security refers to security of tenure, and security from disadvantageous conditions such as bad climate and security from criminal activities. The beneficiaries should live in their environment with no fear of experiencing eviction, criminal activities and inhuman conditions that can cost their lives. This forms part of the rights that are considered in the bill of right which adequate housing should provide (BESG, 2000). Beneficiaries can always feel skeptical because they *BM*
are not sure what will happen if natural disasters come. This point has been argued further as Sowman and Urquhart (1998) argue that the steeper the slope the higher the costs of building and installing services and the more difficult access becomes. This proves that people staying in these kinds of built housing environments are greatly affected even financially because it means they have to carry the cost of where they are located. Steep slopes also have a great risk of erosion and the soil around building if eroded

the structure become less stable, so building on slopes creates problems for beneficiaries.

2.6.5 Standard of dwelling units

The standard of dwelling units is one of the indicators for assessing the quality of life to the community beneficiaries. The vast majority of people in developing countries live below the poverty datum line and current standards of dwelling units are either indifferent to their needs and abilities, or affect them negatively (Mabogunje, 1978). This point has been taken further by Smith (1992) as he argues that architects in South Africa face an enormous challenge of how to reconcile the shape of built environment with the need to accommodate social requirements in the design of low cost houses and mass housing layouts. The voice and needs of the poor are not reflected in the standard setting. This characterises the housing of the many poor South Africans. The setting of standard is very out of tune in a way that it does not benefit people who are supposed to be the beneficiaries of these built housing environment. Mabogunje (1978) argues that since housing is a cultural phenomenon, standards for dwelling have to be related to people and their culture. The type of the housing environment with a potential to alleviate housing conditions and the quality of life should look at the issue of culture with a crucial respect. While on the issues of dwelling standards, Mabogunje brings the issue of technology. Mabogunje argues that dwelling standards are closely linked with building technology. If technology happens to be alien or unrelated to the needs of the people, for whom the standards are intended, then such dwelling standards are

unlikely to be followed and are unlikely to solve housing problems. The use of locally available building material is encouraged. To improve the quality of built housing environment, local material should be used so that people would not feel alien in these housing environments.

2.6.6 Local economic development initiatives

To improve the quality of life of the beneficiary communities of the built housing environment, healthy housing is crucial. Healthy housing Prinsloo argues, is a housing environment that provides a range of opportunities for the fulfillment of all human needs that is supportive of each individual's efforts to develop as a self reliant, responsible creative human being (as cited in Lazenby, 1977). There are little or no attempts at all that have been made to mobilise local development initiatives by the local governments to support beneficiaries. The quality of these built housing environments that Dewar argues to be space, place; choice, convenience and opportunity are questionable. In making the point that residential areas are of good quality environment, Dewar and Uytenbogaart (1995) argue that there is an important need to enhance the capacity of human settlements to generate opportunities for job creation and income generation, both through the process and the form of settlement making. They take the point further to argue that many people will have no option in future except to generate their own capacities: creating vibrant local economies, trade, and provision of services is and will be crucial for local beneficiaries. This is one way of assisting the poor to reduce the expenses of commuting to and from the residential areas and the areas offering opportunities. Prinsloo puts an emphasis on the point that

negative dependency need to be reduced by developing more than a dormitory environment generating and allowing a wide diversity of roles and job opportunities within the community and developing a sense of individual and collective identity and responsibility among community members (Lazenby1977).

2.6.7 Enough space to extend and flexibility

Another indicator for assessing the quality of built environment is its ability to allow extension and to accommodate changes when these are deemed necessary. Enough space to extend gives people choice to extend the way they feel and they do not experience any emotional constraints when the time has arrived to extend. It is argued that diverse and changing household size and composition raises a number of difficulties with regard to meeting the space and location requirements of urban households (Spiegel, 1996, et al). The delivery of a standard, limited form of accommodation and site to the beneficiaries or households is not only causing a measure of inconvenience, but it is also undermining the ability of some households to survive. If people have enough space they can use it even to generate income by practicing small-scale farming and that can contribute to their economic upliftment. To improve the quality of life for the beneficiaries, issue of plot sizes need to be addressed. BESEG (2000b) argues that well-designed and finished public and recreational spaces and streets should compensate the disadvantages of small plot sizes. If this does not happen bigger plot sizes are necessary.

2.6.8 Availability of infrastructure and social services

Availability of social infrastructure is another indicator to be used when identifying qualitative housing environments. The level of infrastructural delivery in the built environment contributes to the well being of the beneficiary community. Poor infrastructure delivery means poor quality of the housing environment and leading to the poor level of quality of life of the residents. Sowman and Urquhart (1998) support this point as they argue that service and infrastructure developments are crucial at improving the quality of life for the communities. They argue that providing appropriate services increases quality of life, reduces risks to health and maintains or improves the balance of natural environment. This point is argued further by Oloefse (1999) as she states that housing is not just considered in terms of its physical structure but rather in relation to what it should represent a home at the level of the individual neighbourhood or community at the level of a group and a viable settlement with functional links and positive interaction in terms of a broaden urban environment. These arguments are based on the fact that services and infrastructure contribute a lot to improving the quality of and living standards of the poor.

2.7 The status quo of the housing environments

According to Dewar and Uytenbogaart (1995) a feature that strikes most in these built housing projects is the total lack of spatial cohesion: nothing is contained or enclosed. In this regard they argues about the fact that there is no integration in these built environment as the results it

impacts on the quality of these built environments and the quality of life for the beneficiary communities. Dewar and Uyetenbogaart (1995) continue to argue that the buildings are all isolated events standing in space and they do not contribute to defining streets or public spaces. Coming to the issue of infrastructure, they argue that it is at times difficult to know where the street begins or ends and the result of this is the environment that is overtly hostile to pedestrians. The streets are constructed to suit cars. In these areas it is argued that there are no shades, no cover, no features of interest or stimulation, no short cuts and they are therefore referred to as non-place realms. This is one of the common features that are visible or observable to some of the built environment and they are really hostile to the lives of the beneficiaries as the result that impact on the quality of their lives.

2.7.2 Shortage social services

Another feature characterising the built housing environment is that they lack public places such as schools, day care centers, open spaces to name a few. It should be borne in mind that the beneficiaries of these built housing environments do not have enough money in such a way that they cannot afford to transport their children to attend schools far away. Given the fact that public places are scarce in these built environments, local people are affected as they find themselves with no option but to use their little earning generated to send their kids to the areas where public places such as schools and day care centers exist.

Dewar and Uytenbogaart (1995) argue this as they state that the role of public places in the lives of the urban poor is critical. It has been argued that if people are poor the full range of the household's needs cannot be met through the individual dwelling, which represents the locus of one family. The argument that is raised as far as public places are concerned is that if properly planned significant part of beneficiaries life is played out in public spaces and these spaces give dignity and sense of permanence to the environment even in the informal settlements (Dewar and Uytenbogaart, 1995). Public places are areas in which most of social experiences are played out and operate and they contribute to the quality of built environment. They further argue that when public spaces are undefined, unscaled, and unpleasant it contributes to the misery of the built environment regardless of how much investment goes into individual buildings or houses. This still emphasizes the point that individual dwellings do not constitute housing but once public amenities and infrastructure are afforded in that area adequate housing is formed and that area can be accorded the status of being housing of good quality.

Shortage of services and urban sprawl, which characterizes these housing environments, go as far as disturbing the role of women. Booth and Harvey argues about this point as he points out that segregated land use and absence of services has limited women's access to childcare facilities, jobs, friends, educational opportunities, health care, governmental services, housekeeping and maintenance assistance as well as cultural events and recreational facilities (in van Vliet, 1988). The question of women in these built housing environments need to be addressed

because they are the ones who are affected mostly by these built housing environments. Moser and Peake (1987) argue that the role of women is no longer only a domestic one but they have other roles to play in the community and also in the formal job setting. If the needs of women are not catered for, their roles are affected in one way or the other. Given the fact that the built housing environments are running short of public spaces and services particularly crèches where children can be left while women are at work or attending other community meetings women's roles get affected. For the built housing environment to meet acceptable quality of life the triple role of women should be catered for and understood. This idea has also been taken further by Prinsloo as he argues that play areas for small children would be best placed at the location near where mothers spend large portion of their time (Lazenby, 1977). Khuzwayo has given an example about Soweto as she argues that the problem of shortage of facilities has manifested itself in Soweto where there is lack and absence of recreational facilities. In those areas where there is lack and sometimes, total absence of recreational facilities with supervision leaves toddlers open to the hazards of traffic accidents, bad feeding and simple ailments becoming chronic because children are checked too late (Lazenby, 1977). Khuzwayo argues that many children who ought to be cared for in crèches roam the streets when parents have gone to work and they become vulnerable to prowlers who roam the street when adults are at work. This becomes a serious issue specifically to those who are responsible for child caring. The location of services within the housing environments is of crucial importance and leaves a lot to be desired. This is based on the fact that Miraftab (1994) in her study found

that inappropriate location of services increases women's already heavy domestic workload and makes life hard for women. Therefore services that support women's role have to be appropriately located to reduce workload and increase convenience for women.

2.7.3 Overcrowding and lack of privacy

Overcrowding is one of the features that characterize the built housing environments. Khuzwayo argues that overcrowding in the homes or dwelling units tends to force youngsters into the streets throughout the day and nights, and parents miss the only opportunity they have to build up relationships with their children in the evening (Lazenby, 1977). The built housing environments for low-income groups have no places to read and attend to schoolwork in the evenings. Lazenby argues that shortage of lighting and poor lighting aggravate the situation. It is argued that some libraries where they exist open until late but the problem faced by children is on how to get back home when it is dark. Children are afraid of night prowlers. This affects children in their studies. Khuzwayo argues that some children become school dropouts with no employment and have turned into juvenile delinquents and even criminals (Lazenby, 1997). So the above issue shows how difficult to be the residents of the built housing environments. Another issue that impact negatively to the lives of the beneficiaries of the built housing environments is overcrowding. It has got an impact on the physical health of the people. The World Health Organisation has been vocal about the effect of overcrowding as it argues that it promotes communicable diseases and it further increases the frequency of disease transmission (Main et 1994). The

quality of built environment that can give quality of life to the beneficiaries should address the issue of overcrowding within the dwelling units and in relation to other dwelling units since it leads to delinquency and affect physical health of the beneficiaries.

Importance of privacy in the residential satisfaction has been shown in numerous studies covering both the individual dwelling and the larger neighborhood setting (Lazenby, 1977). Before going much further it is crucial to mention that overcrowding results in the lack of privacy or affects privacy. Lazenby argues that in contemporary houses lack of privacy is often a source of irritation because of lack of partitions. The international experience on density studies of high-rise building in Hong Kong proves that a source of irritation for members of families was the limited opportunity to get away and to be by themselves. This put emphasis on the point that when the housing development is to take place privacy has to be taken into account. Lazenby argues that quiet neighborhoods are viewed as favorable and better than those where dwellings are exposed to noises from neighbours, children out-of-doors and heavy traffic. Apart from that it is also recognized that the need for privacy within individual dwelling is crucial (Lazenby, 1977). It is desirable that each member of the family should have a space of his own or her own. According to Khuzwayo, overcrowding leads to lack of privacy as the result married couples find themselves sharing bedrooms or sleeping space with young children (Lazenby, 1977). That exposes kids to practices that are beyond their comprehension and as a result they accept what they see as the normal way of living. Overcrowding has been criticized in low cost housing that it

increases environmental stresses by increasing noise levels, decreasing ventilations, and increasing odours, poor housekeeping and solid waste materials (Environmental Health Consultants, 1998). Environmental stress is than not good for health of an individual as it argued that it weakens exposed person `s immunity to infectious disease and causes environmentally related diseases. According to the report made by Environmental Health Consultants (1998) chronically ill people exposed environmental stress may suffer further problems, resulting in deterioration of their condition. On that note one can see that this creates lot of problems for the beneficiary communities of the built housing environment.

2.8 Housing quality and international experience

Housing quality is not a South African problem only but it is an international phenomenon. Lamba (1994) argues that Nairobi`s housing provision is not keeping pace with demand and it is not meeting the needs of the households with low and very low incomes who form the majority of its population. According to Lamba (1994) comparing the projected housing and land needs against the actual land allocation, it is apparent that housing delivery mechanism does not focus appropriately on the needs of the low-income groups in Kenya. It is argued that among the low-income groups in Kenya high tenancy rates and very poor quality housing characterize housing developments. As it is the case in many of the low-income groups housing environments, it is argued that in Nairobi living conditions are characterized by unsanitary conditions, overcrowding, substandard buildings, unsafe, or inadequate water supply, poor drainage system and deficient sewerage and waste disposal.

Nigeria like most of the developing countries experienced a high rate of urbanization and for the individual large urban centers the rate of growth far exceeded the overall growth rate (Ozo, 1991). Industrialization and employment followed rather than preceded and failed to keep pace with urbanization. Ozo (1991) argues that urbanization and the emergent pseudo-urban economy were breeding widespread poverty among the fast growing population and one direct consequence to this was that the majority of the urban population could not afford the current cost of conventional housing. As this is the case with most of the developing countries particularly South Africa the rapid urban growth associated with accelerated tempo of economic development has seriously worsened the shortage of dwelling units which leads to overcrowding, high rent, slums, and squatter settlements which are visible features of the urban scene throughout the country (ibid). Attempts by the Nigerian government and policy makers bears resemblance to the one that has been adopted by South Africa. Ozo (1991) argues that successive attempts made to tackle the housing problem in Nigeria failed partly because of inadequacy of resources and partly because of adoption of inappropriate standards and strategies. The Nigerian housing policy uses the core housing as the centerpiece of its policy, which makes it interesting as the South African housing policy uses that approach at some stage. The idea behind the introduction of the core has been to bring the housing costs within the reach of the majority of people but this approach to housing generated considerable controversy in Nigeria. The approach used by the Nigerian government was to tackle the need for shelter forgetting the real needs of the people housing

environment with job opportunities could be central to help the low income groups.

In the European context countries have performed better as far as housing provision is concerned if comparing them with African countries. Denmark for example is located in Europe and its population is said to be enjoying highest standard of living (Power, 1993). The highest standard of living enjoyed by the Danish people is attributed to the quality of housing provided. Denmark experienced most of the setbacks that hit the world but the strong governance and management has been the pillar of strength when housing quality and improvement of quality of life is to be mentioned. Power (1993) argues that government regulated standardized building elements throughout the country and through all sectors in an attempt to speed up and reduce the cost of construction and at the same time there was a strong emphasis on quality. Given the fact that Denmark has small population, it has managed to improve the quality of life for its population. Housing associations and co-operatives also played a crucial role in keeping pace with demand of housing in Denmark. For South Africa to attain its goals as far as provision of housing is concerned should adopt and follow the steps of the countries that have succeeded in housing provision. Uninformed policies, which achieve short-term goals, should be abandoned since they result in undesirable housing environments constraining on the lives of the beneficiaries.

Chapter 3

Historical Background of the Case Studies

3.0 Introduction

This chapter gives the historical background of Quarry Heights and Waterloo, which are the case study areas. These two settlements are of same character and the reason behind choosing them was to find out if they have helped the beneficiary communities. The central issue was around the location. The intention behind giving the historical background is to provide a reader with the reasons that led to the formation of these housing projects. Firstly the historical background of Quarry Heights is provided and Waterloo historical background follows. A map is also provided so that one could see where these housing environments are situated in relation to the City of Durban (see figure 3.1 (a) on page 53).

3.1 Historical Background of Quarry Heights

Quarry Heights is under the jurisdiction of North Local Council and it is situated on the North-West of Newlands East, which is one of the Coloured communities that were developed during the apartheid regime. The Coloured community dominates Newlands East and the other race groups form the minority. According to Mr. Mngadi (Quarry Heights Housing Liason Officer) Quarry Heights is a low-income housing project which was built for the low income group that was removed from Canaan informal settlement which is situated at Clare Estate on the west of N2 free way. Canaan where the community was removed from developed as an informal settlement and consisted of over ten thousand households. Canaan was named after the Promised Land from

Bible as residents thought they had finally got the land that was going to provide them with necessary needs and wants. The area was characterized by appalling living conditions, total lack and absence of services. There was neither refuse removal nor sanitation schemes in that area. The water distribution was only through community standpipes. The security was working for specified period and after that period no one could access water. Canaan was characterized by poor geotechnical conditions since its soil consists of ecca shale. One good thing about Canaan is that it was located within a walking distance to the city and residents had already established a relationship with the neighboring Indian community, which was the means of livelihood. The Canaan residents were often called by this Indian Community to give them piece jobs.

It happened that informal settlers in Canaan were washed away with their properties and it was November 1997 that it was discovered that the land was not real Canaan. There was a massive landslide. As it frequently happens with informal settlement the land was unstable, which made it unsuitable for housing development so it was against this background that another site was to be identified for relocation of the Canaan informal settlers. Since the appalling living conditions had raised concerns by the City Council, transitory camps were proposed to rescue the terrible situation of the families who were not far from danger. Another suggestion was the development of a greenfield project where the informal settlers were to be relocated. By the time Durban Metro Housing had concerns about the relocation of this community the provincial Housing Department was also in the same arrangements to relocate

Canaan residents. By then there was a private developer, Effingham Housing who had already secured a Project Linked Subsidy approval from the Provincial Housing Department and the designs were already finalized in such a way that the developer had already started doing excavations to put infrastructure. The Effingham Housing was approached by Metro Housing Department to form a partnership. A partnership agreement was reached between Metro Housing and the developer whereby bridging finance, assistance with bulk infrastructure and project approval was facilitated by Metro Housing Department. The earlier suggestion of transitory camp met with opposition from business people and the issue even received Supreme Court attention. The City Council's suggestion of transitory camp was challenged in court and it was stated that the transitory camp was not compatible with the zoning of the area and was going to impact negatively on the local business but the council managed to escape and the point was reached where the council was given a right to protect the lives of the poor innocent people who were faced by the problem of nasty living condition.

As it habitually occurs in the most of low-income housing project when they are to be located close to the areas of the affluent groups, property owners from surrounding communities opposed the location of low-cost housing adjacent to their housing environment. Opposition came from the surrounding neighborhoods, which argued that Quarry Heights development was going to impact negatively on surrounding property values. Resistance came from Newland East, Avoca Hills, and KwaMashu. The KwaMashu community objected to the location of Quarry Heights on the grounds that the land was theirs and they were not going to be the

beneficiaries of the new housing project that was underway. There were lots of demonstrations and protest marches, especially from KwaMashu B and D Section residents, which are adjacent to this area. The KwaMashu community even disrupted the construction of the project on several occasions and attempted to invade completed housing units but Metro Housing Department was always there to bring justice over the matter by sending the police to evict the culprits. The Durban Metro City Council was criticized on the grounds that it was the cause of violence among the blacks from KwaMashu and Canaan. The resistance or conflict that came out between these two communities was accorded a status of tribal conflict since Canaan informal settlement was largely dominated by Mpondos from Transkei and most residents from KwaMashu are Zulus. Another resistance was caused by the fact that the neighboring communities of Newlands East argued that they were not properly consulted or informed about the development of Quarry Heights housing project.

After long negotiations between the surrounding communities and the Council the land in close proximity to Newland East was identified for this low-income housing project. The land was a privately owned land, as Natal Building Society (NBS) owned it. The land was bought from NBS for housing construction. The whole construction process started by June 1998 and all the housing units that were built were without doors and windows. The type of housing that was developed in Quarry Heights is low-density housing. The developer built a wet core, just a shell with four corners and a toilet in the corner. The beneficiaries were expected to complete the structure by themselves. Even today if one drives though or

walks around the area could witness some of the houses that are still without windows and proper doors. Those with windows and doors are poorly fitted. The area was developed without necessary social services that are crucial for human survival and improvement of life quality. Even today there are no social services to date. By the time the area was developed people were expected to use the public services close to the surrounding communities. This was also a source of conflict as there are complaints of congestion when it comes to use of services.

Irrespective of the problems that exist in the area, the area has semi pressure water system, footpaths, street lighting, few public spaces, tarred roads, and shelter. Worship sites, commercial site, and educational sites are there but still vacant and that remains a daunting challenge of the government to see to it that right to adequate housing is met in order to improve the standard of living for the beneficiary community.

3.2 Historical Background of Waterloo

Waterloo is a housing development project located in the Northern coast of KwaZulu Natal and falls under North Local Council, which covers Umhlanga, Verulum, and Tongaat. The area is located about 30km from the City center. The development of this area dates back 10 years and it was identified by the Provincial Housing Department but the presence of this project today is attributed to the co-ordinated effort between the North Local Council, local residents and AMV project managers. The closest developed town to Waterloo is Verulum. Waterloo is one of the areas

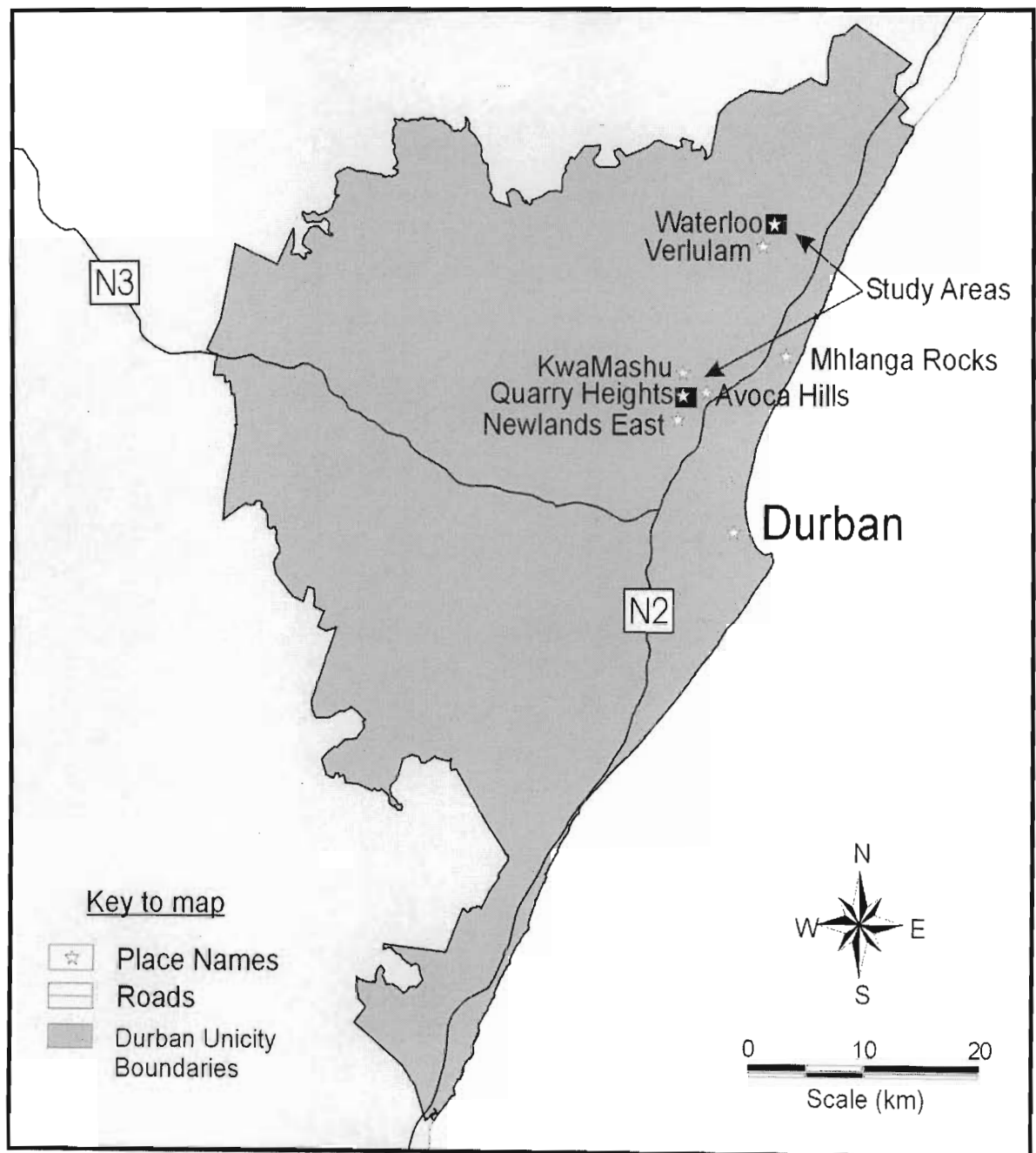
which one could not rely on for social and economic opportunities. This forces most of the Waterloo residents to commute on daily basis to and fro in order to access services. The Waterloo residents depend on Verulam for the multitude of services that the little town provides. Waterloo is also surrounded by huge sugar plantations. The project was established as a site and service area to accommodate the growing numbers of low-income and unemployed people in the region. The services provided since the inception of the project in 1991, consist of waterborne sewerage, semi-pressure roof tank water supply, prepayment electricity meters, 3.5m wide tarred roads, and 2m wide concrete pathways (both of which are designed to double up as storm water drains). The typical dwelling units provided are one-room core houses with a toilet/shower and a tap without a sink or any means of wastewater disposal. Waterloo was a privately owned farm and was bought by the Provincial Government for housing development. This farm covers 330 hectares of land and is divided into 6000 housing sites. According to Panday (2002) the development was planned to benefit an estimated 300 000 people, most of whom are unemployed and there was no target residents that this housing environment was to be built for but all people from Townships around Durban. People from different places applied for this housing environment and others did not show up. To reach those people the media was used but few turned up. Majority of those who did not turn up were Indians. In the interview that was held with Panday, he stated that Indians feared to stay in mixed residence with Africans. Since 1996 people who were to be located in the project are those who are from the North Local Council only.

The development of Waterloo housing projects has happened in phases but it has not been in linear sequence. During the survey the researcher noticed that the project had seven phases but phase six and seven were still in packaging stage.

Concluding Remarks

The case study areas have been discussed in the above section with a intention to locate or to create the mental picture of these areas to the reader. In the following chapter the data will be analyzed as mentioned in the methodology section. The quality of built environment will be evaluated in this section whether it worth improves the quality of life to the beneficiaries.

Figure 3.1 (a), showing the location of the Case Study Areas



Source: School of Life and Environmental Sciences,
University of Natal (2002)

Chapter Four

Case Study Findings and Analysis

4.0 Introduction

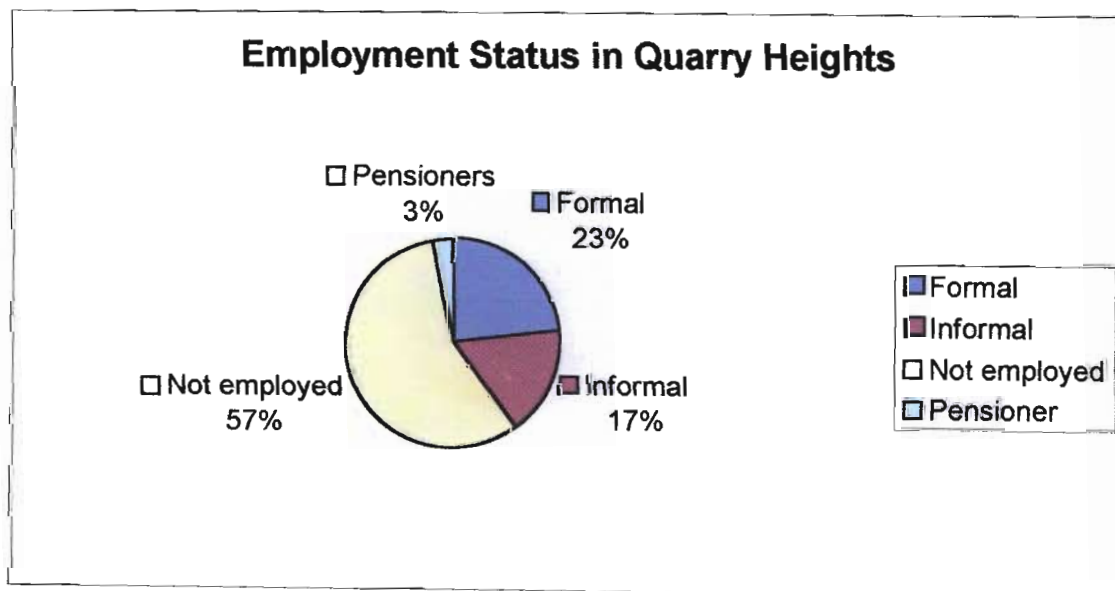
The following is the analysis of the data collected from the residents of Waterloo and Quarry Heights with regard to the quality of housing environment and improvement of the quality of life to the beneficiaries. Improvement of the quality of life depends on the capacity or ability of the housing environment to meet the needs of the beneficiaries. Adequately planned housing environment along the lines of holistic approach is one that is expected to address the needs of people catered for. The analysed data collected from Waterloo and Quarry Heights would allow one to reach a conclusion about the quality of the housing environments created for low-income groups.

4.1 Employment Status

Employment status of Quarry Heights indicated that 23 percent of the population was formally employed, 17 percent was informally employed, 57 percent was unemployed and 3 percent were pensioners. In the case of Waterloo formally employed population constituted 20 percent, informally employed population constituted only 27 percent, unemployed population amount to 43 percent and the pensioners are only making 10 percent. If looking at the employment status of the both housing environment one could see that the percentage of the unemployed was the highest in relation to the employed (**refer to figure 4.1(a) and 4.1(b)**). The respondents attributed high rate of unemployment to the fact that the quality of environment did not provide easy access to job opportunities. The location was the central issue

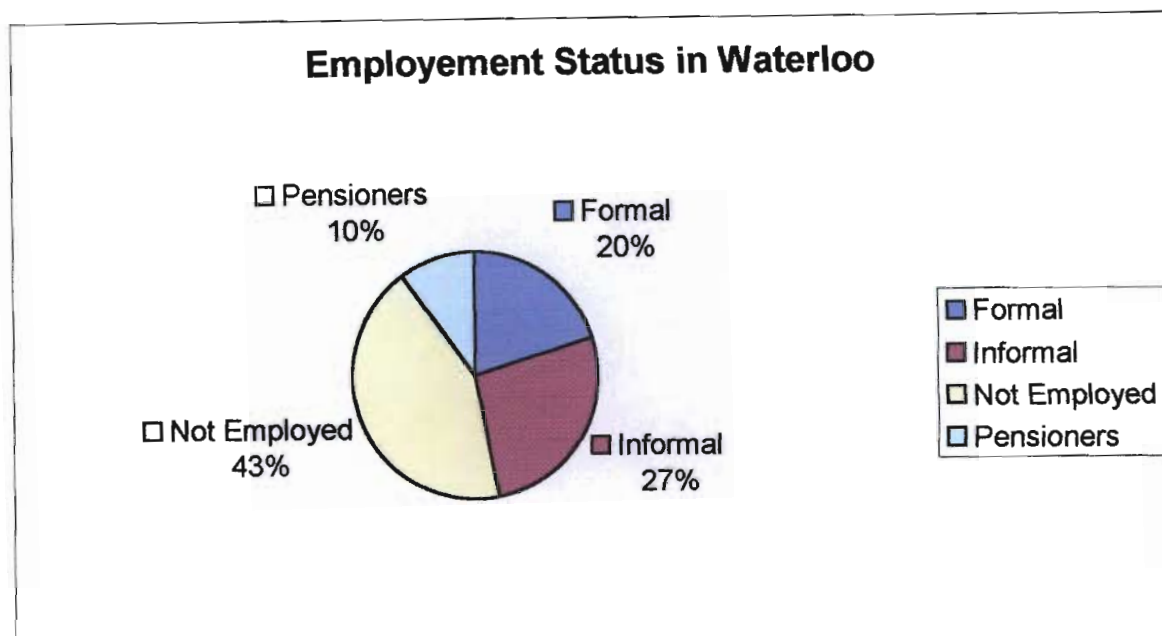
that was seen as the major cause of the high unemployment records in both case study areas. This brings the whole argument made by Mohamend (1997) that recognizing a chance within these built housing environment for low-income groups is a problem. In both housing environments, the beneficiaries complained about the location of their housing environment and indicated that they spent lot of money traveling to places where they could get employment opportunities. The employed respondents complained that at the end of the day they invested in nothing because of transport expenses. In Quarry Heights where the majority of the employed worked in the CBD of Durban there was an outcry on the issue of location since they paid R10 a day per individual. In both case studies the pensioners complained about the fact that these housing environments have no pension payout points.

Figure 4.1(a): Employment Status in Quarry Heights



Source: Field Survey (2001)

Figure 4.1 (b): Employment Status in Waterloo



Source: Field Survey (2001)

4.2 Average monthly cost on transport per household

In Waterloo 23 percent of the households spent less than three hundred rand on transport per month, 47 percent spent between R400.00 to R700.00, another 17 percent mentioned that they spent between R800.00 to R1100.00 and the remaining 13 percent were spending from R1200 and above In Quarry Heights the respondents were also about their household expenditure on transport. 27 percent of the households in Quarry Heights spent from R0-R300.00, 53 percent was spending R400.00 to R700.00, another 20 percent was spending R800.00-R1100.00 and the remaining 10 percent was spending R1200.00 and above (refer to figure 4.2. (a) to view average monthly costs on transport for Waterloo and Quarry Heights households). In both settlements the respondents complained that they in connection to the costs of transport. They raised the point that they found

themselves spending more on transport service other than investing in other useful household activities.

Figure 4.2. (a) Average monthly transport costs in Waterloo and Quarry Heights Households

Transport cost	No. of household in Waterloo	%	No. of household in Quarry Heights
R0-R300	14	47	16
R400-R700	7	23	8
R800-R1100	5	17	6
R1200 and above	4	13	3
Total Percentage	30	100	30

Source: Field Survey (2001)

4.3 Period of Stay

During the survey it was found that there were some occupants who had just occupied their starter houses. These new occupants bought houses from the original owners and others were renting core houses from the owners. Noticing this situation the researcher made follow up questions of where the original owners lived and why they had left the area. In both Quarry Heights and Waterloo the percentage of the population that had been there for less than two years was either renting or bought the starter houses from the original homeowners. The reasons given for either selling and letting the starter houses differed according to individuals' circumstances as others sold houses because having got a stable employment with disposable income that allowed them to purchase houses in the places with social and economic facilities. Others sold their houses and returned to the informal settlement because they could not

afford payment of services. In Quarry Heights 83 percent of the respondents had been there for 3 to 4 years and only a minority had managed to extend their houses. The other remaining 17 percent had just occupied the starter houses. In Waterloo 20 percent belongs under the category that occupied houses for the period of 0 to 2 years, another 23 percent had been there for 3 to 4 years and the other 57 percent had been there for more than 5 years **(refer to figure 4.3(a) to see the period of stay of the residents)**. Those who extended houses were optimistic that one day their housing environment would have required services that were expected to improve their quality of life. The down raiding process that was found in Waterloo and Quarry Heights led the informants to conclude that people were either subletting or selling starter homes because they could not afford payment for services. Others were doing that to get income of which their housing environment did not provide due to the lack of economic facilities. This finding then indicates that the qualities of built environment is not suitable for the beneficiaries since others sold or sublet their starter houses to get an income.

Table 4.3(a) : Shows the period of stay for residents

Period of Stay	No.of Quarry Heights respondents	%	No.of Waterloo respondents	%
0-2	5	17	6	20
3-4	25	83	7	23
5 and above	0	0	17	57
Total	30	100	30	100

Source: Field Survey (2001)

4.4 Beneficiaries` Previous Housing Environment

During the survey the respondents were also asked about their previous housing environment. In the case of Quarry Heights the beneficiaries from informal settlements were the majority constituting 77 percent and those from rural areas and township form the minority, as they constitute 23 percent. The latter involves those who either bought or were renting the dwelling units from the original owners. As far as residents from Waterloo are concerned a minority were from informal settlement. Only 13 percent amount to that population and the population from townships was 50 percent and the remaining 37 percent was from rural areas. The beneficiaries of these housing environment mentioned different reasons that caused them to move from their original places. During the survey it was found that Waterloo was made up of group of populace from different places and the majority of them were from Canelands where they were renting an accommodation. Their movement to Waterloo was attributed to the fact that previous housing environment was a rental kind of accommodation. The quality of dwelling units being better off in Waterloo was raised as the reason to leave previous settlement. The majority of the population in Quarry Heights was former residents of Canaan informal settlement and their original place was Transkei. Their movement from Transkei was due to economic and employment factors. Their movement from Canaan to Quarry Heights was environmental factors since Canaan was unstable and undevelopable.

4.5 Comparison of new and previous housing environments

4.5.1 Quarry Heights Housing Project

In Quarry Heights 23 percent of respondents rated the quality of current housing environment as of very high quality although complaints were raised that it did not have enough services. That made it inadequate and lessened its quality. Another 47 percent argued that the existing housing environment was of high quality and they mentioned a same reason as above. The remaining 30 percent stated that the current housing environment was of low quality compared to their previous housing environment. The grounds behind rating their housing environment as of worse quality was due to the fact that most of houses had construction defects, poor location, poor orientation, escalating crime records, and shortage of social economic services in the area. Though the respondents appreciated attempts made by the Housing Department, they argued that real problems were not tackled since they were still poverty stricken. The complaint was based on the fact that their previous housing environment was well located close to the means of source of revenue since Canaan was within a walking distance to the CBD. Apart from that they had already established bonds and trust with Indian communities in Clare Estate so that they could get piece jobs as the means of livelihood. The study found that the quality of these built housing environment constraints on the lives of the communities as indicated above.

4.5.2 Waterloo Housing Project

In Waterloo 63 percent of the respondents indicated that the new housing environment was of worse quality. They further pointed out that they were unable to get employment

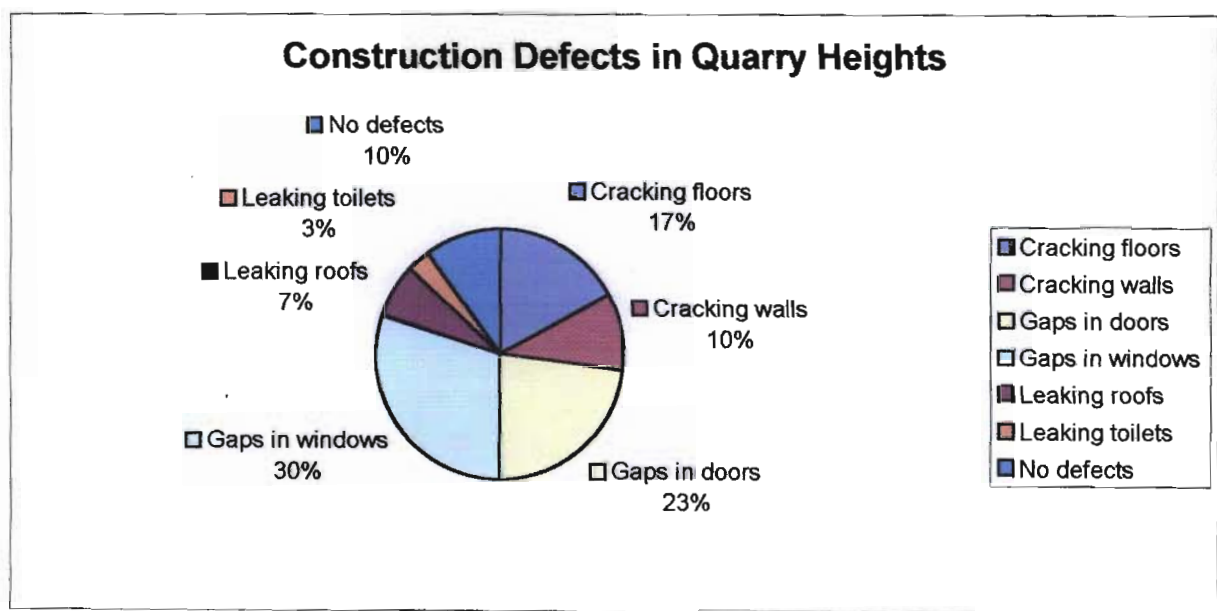
opportunities, as was the case in their previous housing environment. The location was greatly criticized by this group as they pointed out that Waterloo was not well located. From this 63 percent, 40 percent pointed out the ongoing problems pertaining to construction defects in their houses. They went as far as mentioning that construction defects were source of irritation as it meant ongoing repair costs. Another remaining 37 percent argued that the new housing environment was of high quality since they were provided with it freely.

4.6 Construction Defects in Waterloo and Quarry Heights

As already mentioned as far as the construction defects are concerned, in both Quarry Heights and Waterloo there was a complaint as far as construction defects are concerned. In Quarry Heights 90 percent of respondents had construction defects in their dwelling units. Out of these respondents, 30 percent reported gaps in their doors, 23 percent reported gaps in windows, 17 percent reported cracking floors, 10 percent had cracking walls, 7 percent reported leaking roofs, 3 percent had leaking toilets and only 10 percent had no construction defects (**refer to figure 4.6 (a)**). The respondents also complained that damp patches showed inside the wall after heavy rains. According to the interview held with the local councilor Mr. Ganesh, most of the construction defects were attributed to the fact that people completed the starter houses themselves since there was the shortage of money to complete the structure. Respondents with construction defects complained a lot but they argued that there was no one to blame because they fitted doors, windows, and made floors for themselves. This brings the

argument that the choice and shortage of finishes is governed by the earning capacity of the owner of the starter house (SA Builder, 1990). Some of the construction defects such as leaking toilets and leaking roof was attributed to poor workmanship of the development agency that was involved during the construction of the starter houses.

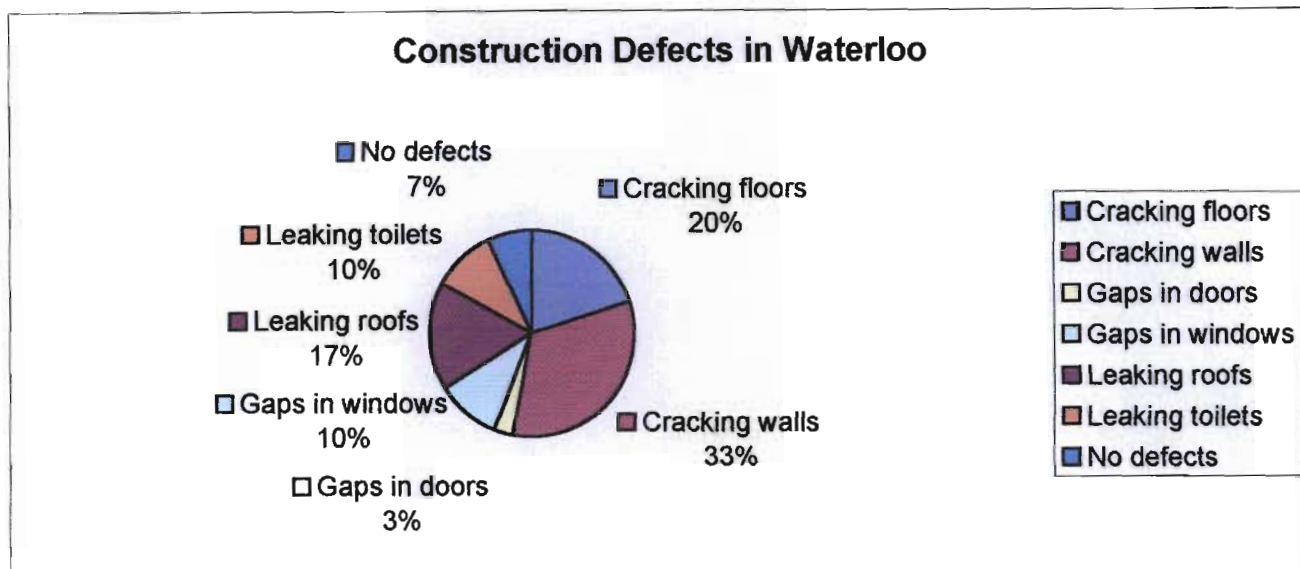
Figure 4.6(a): Shows Construction Defects in Quarry Heights



Source Field Survey (2001)

In Waterloo, 20 percent of respondents reported cracking floors, 33 percent reported cracking walls, 3 percent reported gaps in doors, 10 percent reported gaps in windows, 17 percent reported leaking roof, 10 percent had leaking toilet and the remaining 7 percent had no construction defects as they reported nothing (refer to figure 4.6.b). In both housing environments dampness, which is the result of rain penetration, rising damp, and condensation, was a common problem. Cracking walls in both housing environment was caused by the fact that housing units did not have strong foundations.

Figure 4.6(b) : Construction Defects in Waterloo



Source: Field Survey (2001)

Figure 4. 6(c) shows construction defects and poor finishes in Quarry Heights



Source Field Survey (2001)

4.7 Satisfaction about plot size

In Waterloo 47 percent of the respondents were satisfied about the plot sizes, and the other 53 percent was not

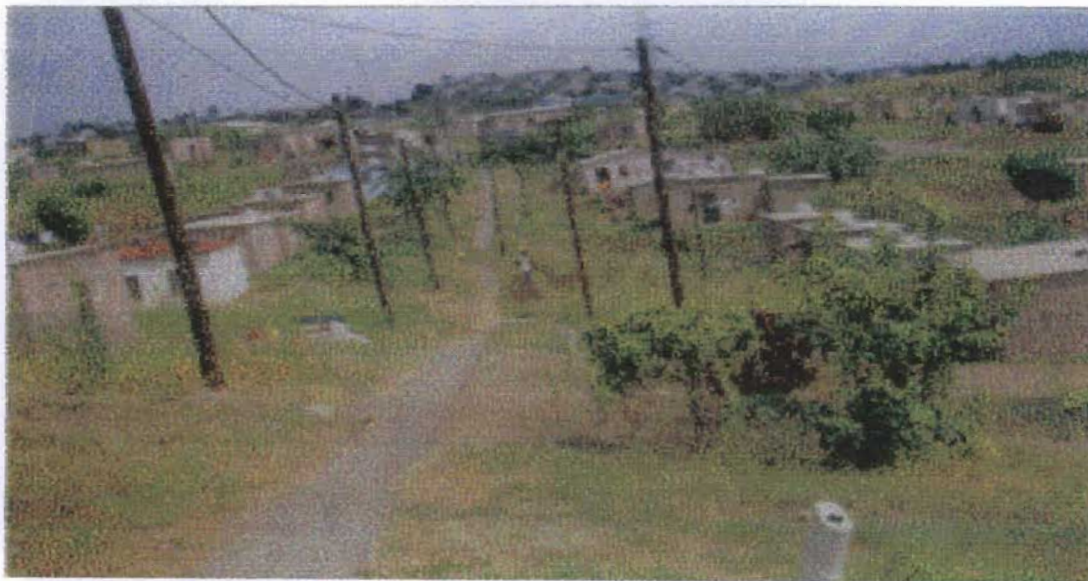
satisfied. In Quarry Heights 40 percent of the respondents were satisfied about their plot sizes and the remaining 60 percent of the respondents argued that they were not pleased about their plot sizes. Nature of contentment corresponded with the fact that plot sizes offered the beneficiaries the space for extension. Although they were satisfied but the complaint was raised that plot sizes could not allow them to practice small gardening or urban agriculture. Women raised this point since they are one who mostly carry out small farming than men do. Those respondents who were dissatisfied argued that plot sizes did not provide out door living space.

4.8 Constraints caused by plot location

Other respondents mentioned that their plots were not accessible since they did not have access roads. This is poor planning of settlement that affects the low-income groups and affects the quality of built environment. As it has been mentioned, land was one of the constraining factors in low-cost housing provision, the developers found themselves with no alternative except to build or develop houses on slopes. The respondents argued that the way their settlements were planned, was based on the supposition that they would never own cars or have visitors owning cars (**Figure 4.8(a) and 4.8(b) show houses without access road in Quarry Heights and Waterloo**). In the case of both Waterloo and Quarry Heights that was noticed. The footpaths exist to allow people to access their dwelling units. The respondents argued that irrespective of the fact that they are low-income groups but the adequate housing has to be provided. The planners should do away with assumptions and stick on

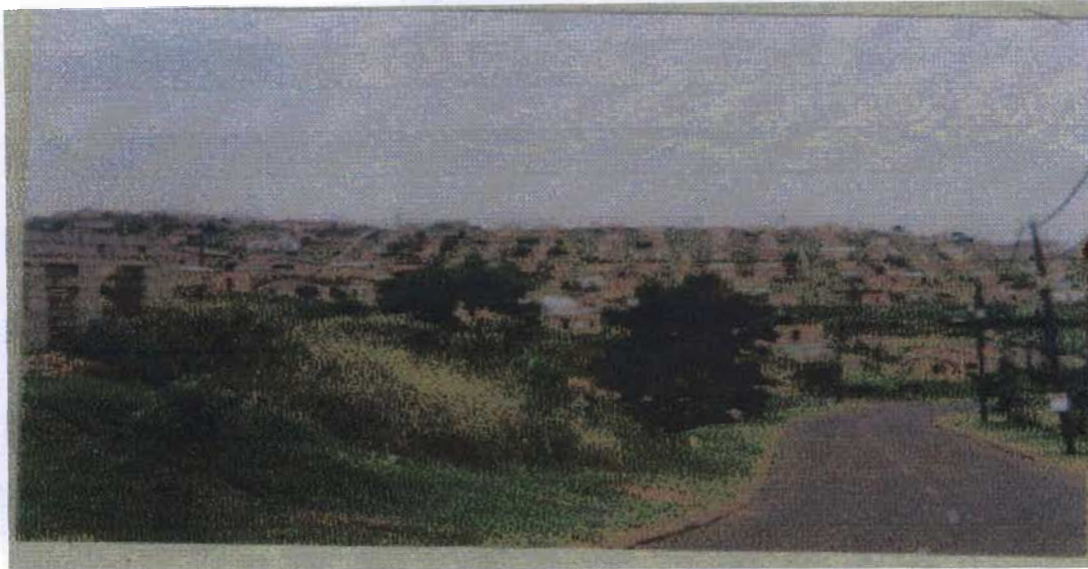
planning methods, which are based on specifics and realities that things would change. Some of the respondents argued that during the heavy rains water stops on their plots and floors inside the dwelling units become damp. The respondents argued that dampness negatively affected their health and their household properties got affected. Other respondents complained about mud and standing water in their plots as the results ground became waterlogged and slippery.

Figure 4.8(a) shows houses without access roads in Quarry Heights



Source: Field Survey (2001)

Figure 4.8(b) shows houses without access roads in Waterloo



Source: Field Survey (2002)

4.9 Satisfaction with the Quality of building material used

The respondents were also asked about the satisfaction in relation to the quality of the materials used for housing construction. 63 percent of the respondents from Waterloo were not satisfied concerning the quality of material used in constructing their housing units. Only 30 percent was satisfied and 7 percent was neither satisfied nor dissatisfied. In Quarry Heights, 60 percent of respondents were satisfied with the quality of material used and 40 percent was dissatisfied. Various reasons were put to the fore, which affect them. In both housing projects the respondents complained regarding asbestos used for roofing that it was not healthy. In Quarry Heights the residents argued that the quality of blocks that was used was poor because after persisting or heavy rains the wall inside the dwelling units got humid as the rain penetrated through and that resulted in sicknesses such as flu.

4.10 Privacy Level in Quarry Heights and household size

In both case studies the issue of privacy was a serious problem needing great attention. Privacy was associated with overcrowding within the dwelling units and outside the dwelling units. Occupancy ratio within a dwelling unit was one of the disappointing factors as it was found that within some dwelling units parents slept in one room with their children. The household size in both settlements was the big issue in many households (refer to figure 4.10(a) to view household size in Waterloo and Quarry Heights). In Waterloo only 30 percent of residents were satisfied with the level of privacy and in Quarry Heights only 23 percent was satisfied with the level of privacy. The population that was satisfied with the level of privacy was mostly the one that extended their housing units. Although they mentioned satisfaction as far as privacy is concerned within their dwelling units but they argued about overcrowded neighborhood, that it affected privacy. Public open spaces were a major concern since both places did not have such places where one could go and relax. Overcrowded neighborhood was strongly criticized by the respondents of both Waterloo and Quarry Heights as affecting privacy.

Figure 4.10 (a) Household Size in Waterloo and Quarry Heights

Size	Waterloo Households	%	Quarry Height Households	%
0-4	5	17	6	20
5-9	18	60	20	67
>10	7	23	4	13
Total	30	100	30	100

Source: Field Survey (2001)

4.11 Satisfaction of residents about orientation of housing units

Orientation of housing units was also a major concern in both Waterloo and Quarry Heights. In Quarry Heights 33 percent of respondents argued that orientation of their housing unit was poor. The researcher also observed this as some dwelling units had front doors facing South direction where rain normally comes from and others had front doors facing the run-off slope. The respondents argued that this was a source of irritation because water flowed in under the door and damaged their property. Another 50 percent was happy since orientation of dwelling units allowed them to have a good view to the road. The remaining 17 percent was not sure whether the orientation of their dwelling units was poor or good. 43 percent of respondents from Waterloo argued that orientation of their housing units was not satisfactory. The majority of the respondents had front doors of their housing units facing the south direction where there were no houses except the sugar plantation. The majority of these people argued that they experienced constant housebreaking and theft. Other residents had already started attempts to change the doors to face road. The remaining 53 percent argued that the orientation of their dwelling units was very good because it allowed them to have a good view to the road. They further mentioned that orientation of their dwelling units allowed neighbors to have a full view to their houses if they were not around. It is a common architectural knowledge that in southern hemisphere houses should face north and windows on the west facing walls should be avoided due to problems of overheating during the afternoon. This was a pity because

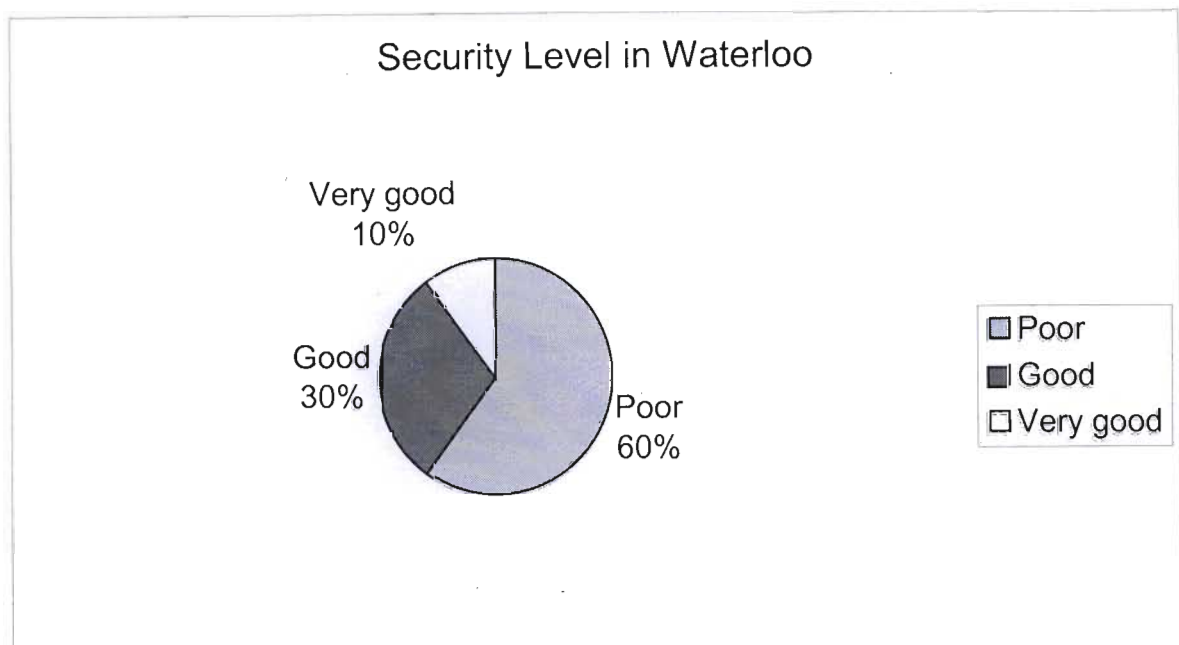
during the survey it was noticed that in both Quarry Heights and Waterloo some of the dwelling units were facing west and the residents argued that they felt uneasy because of overheating. This was attributed to poor design of dwelling units.

4.12 Level of Security in Waterloo

Level of security is another critical factor that is crucial when one has to bring about quality of housing environment best likely to leave no constraints to the beneficiaries. The Waterloo community complained about security level for the mere fact that there were high rate of crime activities that frequently occur. 60 percent of the respondents stated that security level was poor. This was due to the fact that they did not have a police station in the area although Metro Police often visited the area to patrol but there was a general feeling that it was not adequate. Apart from the crime issue there was another dimension of security issue causing threat to the beneficiaries that was raised. 17 percent out of the 60 percent above complained about security level because of the poor location of dwelling units. The difficult topography was the reason to feel insecure. They complained that their housing units were built on slanting edges and did not live peacefully because when during heavy rains they could be washed away. Another 30 percent was happy with the level of security in their housing environment that it was good. Nature of satisfaction with the level of security goes with the fact that their housing units were well located, had security of tenure, and they had not experienced crime related activities. This 30 percent of respondents argued that security level was good and the other 10 percent argued that level of security was

very good and same reason as one given by the above 30 percent was the reason to argue for the point level of security is very good (**refer to figure 4.12a**).

Figure 4.12(a) shows satisfaction about the level of security in Waterloo

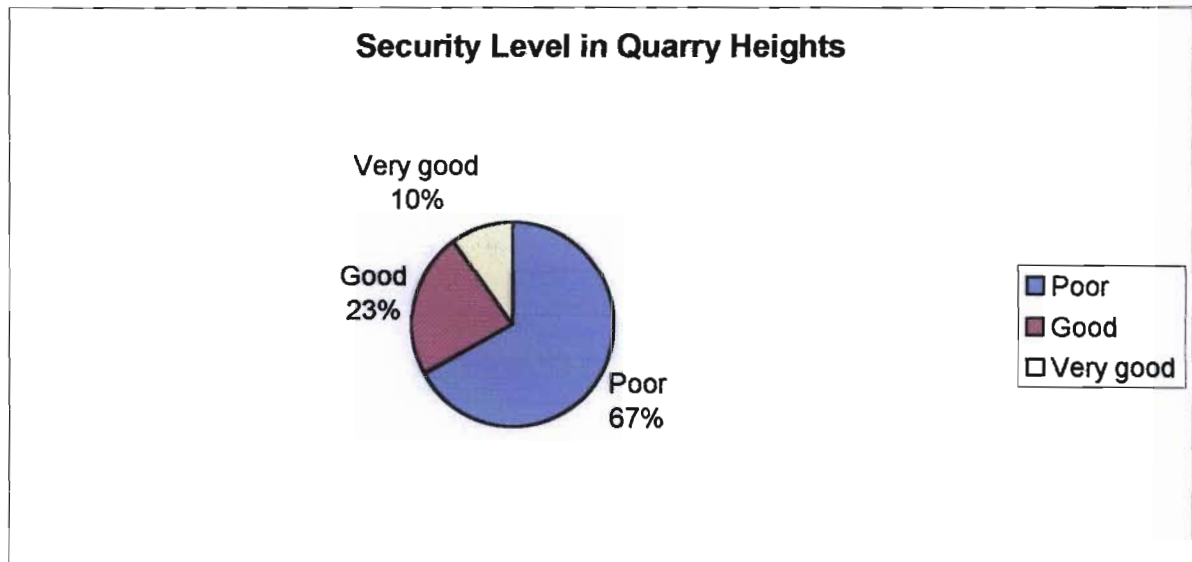


Source: Field Survey (2001)

In the case of Quarry Heights 67 percent of respondents complained about security level in their housing environment as they indicated that it was poor. The other 23 percent argued that security level was good and the remaining 10 were satisfied with the level of security as they indicated that it was very good (**refer to figure 4.12b**). Housebreaking, theft, rape, domestic violence and other crime related activities were reported to be a common occurrence in Quarry Heights by the above-mentioned 67 percent of respondents. This was attributed to the fact that people were unemployed and the area was running short of economic infrastructure that could be used to reduce the

scourge of unemployment levels in the area. Apart from that the respondents complained that they did not have police station in the area. With regard to the above-mentioned issue local residents had pleaded for a container that could be used as temporary police station but there were some delays in securing the matter. Another security issue was based on the fact that almost all of the residents in Quarry Heights were still without title deeds so they felt insecure because eviction could happen at any stage. The issue of insecurity because of location was disclosed by some of the respondents. Some other houses in Quarry Heights were located where water normally passes through, as a result soil was eroded and the houses could fall at any time because it even lacked substructure or foundations (**refer to figure 4.12(c) which shows poor location of the dwelling unit in Quarry Heights along the stream**). The households occupying these housing units mentioned that they are worried since their houses units can be washed away at any time because of poor location of their housing units.

Figure 4.12(b) shows satisfaction about level of security in Quarry Heights



Source: Field Survey (2001)

Figure 4.12(c): Poor location of dwelling unit in Quarry Heights



Source: Field Survey (2001)

4.13 Feelings about service delivery in Quarry Heights and Waterloo

Service delivery has got an impact on the quality of life and the quality of built housing environment. Poor service delivery may impact negatively on the lives of the beneficiaries. From the beneficiaries in both Quarry Heights and Waterloo the researcher found that service delivery was a poorly done activity. This was a critical issue because the shortage of appropriate services impact on the quality of life. Sowman and Urquhart (1998) have agreed about this point as they point that provision of appropriate services increases quality of life, reduces health risks and maintains or improves the balance of natural environment. Good servicing provides the base upon which an individual can develop a good quality of life by improving his or her house overtime (BESG, 1999). Quality of life is interrelated with the provision of services such as electrificity, access to clean water, telephone service and waste management and removal. The most critical issues, that was a source of irritation was the poor delivery of some of the services in both Quarry Heights and Waterloo.

4.13.1 Electricity

Out of the respondents interviewed in Quarry Heights, 17 percent of them indicated dissatisfaction about electricity delivery in their housing environment. The reasons put forward varied according to individual experiences but the main reason put forward was the frequent cut of electricity without notices. The other 80 percent argued that delivery of electricity was satisfactory and the remaining 3 percent argued that electricity delivery was very satisfactory. In Waterloo, only 13 percent indicated dissatisfaction about

electricity delivery in their housing environment, 77 percent argued that electricity delivery was satisfactory and the remaining 10 percent argued that it was very satisfied in connection with the delivery of electricity. In both housing environments the majority of the respondents who indicated that delivery of electricity service was good, attributed that to the fact that prepaid metered electricity system was cheap and convenient to use. They argued that if the card was finished you have nothing to worry about that your electricity would be cut off.

4.13.2 Water/Sewerage Service

Responses from the respondents interviewed about water/sewerage also proved that water and sewerage system was a poor service in the area.

53 percent of respondents from Quarry Heights indicated that water and sewerage system was a poor service in the area since constant blocking of toilets, and leakage of water pipes was a common experience. Constant blocking of toilets was attributed to the use of poor construction material. The pipes that were used for water connection were of inferior quality and there was lack of specification usage. The other 40 percent of respondents were aware of the problem but argued that since it did not affect them it was good and only 7 percent argued that water system was very good since they had never heard or come across any problems related to water except minor cases that were easily repaired. In Waterloo 47 percent of respondents interviewed indicated dissatisfaction as far as water and sewerage system is concerned. They reported constant water cut and toilet blockages. Some of the respondents argued that they had their water system blocked because of failing to pay water

service so on those grounds they got affected. The other 33 percent argued that water/sewerage services were good since no problems they ever experienced related to this service. Only 20 percent argued that water service was very good since they had never heard or experienced any problems related water service. This group did not disagree with the fact that it was possible that water service was problematical to other people

4.13.3 Waste Management

As far as waste removal is concerned, 67 percent of respondents in Quarry Heights argued that it was a poor service. The reason behind that was the mere fact that waste was collected once a week. In Waterloo the same situation was discovered as 73 percent of the respondents argued that waste removal was a poor service in the area. Some other areas especially the access footpaths were used for dumping the waste; as a result the storm water drainage system got blocked. In Waterloo flies, mosquitoes and other insects that are not good for human health were a common problem. Presence of the flies in the area was attributed to poor waste management although others stated that flies were caused by the fact that Waterloo was located adjacent to the sugar plantation. In Quarry Heights 33 percent argued that waste removal was a good service and no one was of the opinion that it was very good or excellent. The 33 percent above argued that it was good because in previous housing environments no one was responsible for waste removal as it happened in their current housing environment. In Waterloo 17 of respondents argued that solid waste management was a good service and another 10 percent argued that it was very good. The reasons given were similar as they pointed out

that in the previous housing environment waste was not collected but they also indicated that collection of waste once a week was not adequate because residents ended up dumping waste everywhere. This was seen as hazardous to human health and left the physical environment filthy. Apart from that poor waste management was seen as one of the factors that led to blockage of storm water drainage. In that regard it was argued that poor waste management made the area undesirable for human habitation and interrupted functioning of other services.

4.13.4 Telephone Service

As far as telephone service is concerned from both Quarry Heights and Waterloo the majority of respondents were not happy about the level of its delivery.

In Quarry Heights 83 percent of respondents argued that telephone service was a poor service and the remaining 17 percent argued that its delivery was good since they sometimes used phones in Newlands East. The 83 percent that indicated that telephone service was a poor service in the area ascribed that to the fact that Quarry Heights had Vodacom public phones only. These phones were privately owned and had stipulated working hours. Because of escalating crime incidents in the area owners were forced to close early. Outside stipulated working hours local people could not have means of communication telephonically. The other 17 percent that argued that telephone service was good in the area consisted of those who had phones connected in their housing units. In Waterloo 93 percent of respondents argued that telephone service was a poor service in the area and the other remaining 7 percent stated that it was good. Those who argued that telephone service was good gave a same

reason as the given by Quarry Heights residents. Waterloo had only one Vodacom container that served as means of communication. There was also a complaint that other residents had telephones in their houses but were disconnected due to the failure to pay for its cost. The issue of shortage of public telephones in the area was greatly criticized as affecting the quality of life and deprived the housing environment the status of being adequate housing environment.

Figure 4.13(a) shows level of service delivery in Quarry Heights

Level of Service Delivery	Poor	Good	Very Good	Total Percentage
Electricity	17	80	3	100%
Water/sewerage	53	40	7	100%
Telephone	83	17	0	100%
Waste removal	67	33	0	100%

Source: Field Survey (2001)

Figure 4.1(b) shows level of service delivery in Waterloo

Level of Service Delivery	Poor	Good	Very Good	Total Percentage
Electricity	13	77	10	100%
Water/sewerage	47	30	23	100%
Telephone	93	7	0	100%
Waste removal	73	17	10	100%

Source Field Survey (2001)

4.14 Accessibility of Public facilities in Waterloo

Despite the issue of services delivery mentioned above the issue of public facilities was another issue that raised major concerns to residents of Waterloo and Quarry Heights. The following gives the views of the residents of Waterloo in connection to the availability of public facilities and later on the views of the Quarry Heights residents are given.

4.14.1 Shopping facilities

In Waterloo, 67 percent of respondents were not happy about level of accessibility of shopping facilities in the area. This was due to the fact that there were no shopping facilities in the area except little spaza shops that were run at home. The other 20 percent argued that shopping facilities were satisfactory because Verulum was not far from their housing environment in that regard they argued that accessibility of shopping facilities was good. The remaining 13 percent was happy about the shopping facilities

in the area for the reason that they had local spaza shops. This group of respondents was advocating the use of local shops rather than traveling to other areas. An interview with local councilors of Waterloo and Quarry Heights disclosed that sites for shopping facilities in these areas were there but nothing had been done to date. Local people argued that provision of shopping facilities in the area was expected to reduce increasing joblessness rates in their housing environment since people could get employment. In Quarry Heights the site for commercial services existed but the matter rested on who was going to purchase that piece of land since it belonged to the ABSA bank. The local residents were not happy about the fact that their housing environment was short of shopping facilities.

4.14.2 Sports facilities

In Quarry Heights 73 percent of respondents argued that sports facilities are there but not in good condition because of the lack of maintenance. Playing lots for children in Waterloo were non-existent except one small patch of land close to the road. This was a source of irritation to the parents especially women because they feared the possibility of children being knocked down by cars. This small patch of land did not have playing facilities for children. 23 percent of respondents argued that sport facilities were good the problem was only with the maintenance that had left these facilities in dilapidated state. The 73 percent above argued that their housing environment was not adequate since it was short of sports facilities. Shortage of sport facilities was seen as the cause of escalating crime statistics and youth

delinquency in these housing environments because they had nothing to keep youth busy.

4.14.3 Educational facilities

The issue of educational facilities is one of the issues that raised concerns to the Waterloo community. Only two schools exist in the area, one primary school and one secondary school with four prefabricated buildings. Although schools were well sited and accessible but secondary school was not in a good condition: as mentioned that it had four prefabricated buildings. Overcrowding in schools was a major concern to both parents and scholars.

Waterloo residents also complained that crèche was not well located and it was not easily accessible. According to the interview with the local councilor of Waterloo it transpired that the existing crèche in the area was provisionally situated in the Housing Support Center since the other one was still under construction. The local people also argued that the library was not easily reached because it was not within the area but just on the edge of the area. School was not up to standard in such a way that the majority of the scholars from Waterloo preferred attending schools at Verulum. In that regard 50 percent of respondents argued that accessibility of educational facilities was poor, 43 percent argued that it was good and the remaining 7 percent argued that educational facilities' accessibility was very good.

4.14.4 Health facilities

Health facilities are crucial for human health and their state of well-being. Respondents that were interviewed in

Waterloo, 87 percent of them stated that health facilities are scarce resources: as the result that makes them inaccessible. This is due to the fact that neither clinics nor hospitals exist in the area. According to the interview with Mr. Logie Naidoo, a local councilor it was disclosed that sites for clinics are there but there have been delays in the construction of the clinic in the area. This was a constraint to client community of Waterloo because to attend a clinic they have to travel to Verulum, which is miles away from Waterloo. In that regard respondents viewed accessibility of health facility as poor since it is not in a walking distance by feet. Waterloo was established ten years back but people were still running short of health facilities. The other remaining 13 percent argued that accessibility of health facilities was very good. Housing provision for low-income groups should consider putting health facilities as one aspect that is crucial for survival of the people.

4.14.5 Community hall

Community hall in Waterloo was not located within the area but was on the edge of the area. 50 percent of residents complained that the hall was poorly located and it made its accessibility questionable. This raised question as to whether this hall was built for Waterloo residence or was to be shared with surrounding communities. This has raised a racial conflict as residents argued that several times Waterloo community tried to book the hall but they were told it was already booked. The respondents argued that the hall only served the interests of the Indian community only. The other 33 percent argued that the hall was accessible since

it is situated along the way to Verulum. As far as complications in getting a hall, these argued that they had not heard of that issue. The other 17 percent argued that the accessibility of the hall was very good since it was situated along the road to Verulum.

Table 4.14 showing Accessibility of public facilities in Waterloo

Accessibility of Public facilities	Poor	Good	Very Good	Total Percentage
Shopping facilities	67	20	13	100 %
Sport facilities	73	27	0	100%
Educational facilities	50	43	7	100%
Health facilities	87	13	0	100%
Community hall	50	33	17	100%

Source: Field Survey (2001)

4.15 Accessibility of Public Facilities in Quarry Heights

Respondents from Quarry Heights were also interviewed in connection with the accessibility of sports, educational, entertainment, health facilities and community hall.

4.15.1 Shopping facilities

In Quarry Heights 60 percent of respondents argued that shopping facilities were accessible, 37 percent was satisfied and only 3 percent argued that they were very satisfied. As far as the shopping places were concerned most of people from Quarry Heights did their shopping in the CBD Springfield Park, KwaMashu and others used local spaza shops.

4.15.2 Sports facilities

93 percent of respondents argued that accessibility of sports facilities was poor. The only sport facilities in the area were playing lots for children. Residents complained that shortage of sports facilities led to escalating crime activities. The local residents also argued that in Newlands East sports facilities exists but they become overcrowded; as a result that raised conflicts between Quarry Heights and Newlands East communities. The other 7 percent was not sure whether the accessibility of facilities was good or poor in the area because it was less concerned about its usage. The playing lots for children were enough since they were seven of them. Another complaint was raised that there are no open public spaces where one would go for relaxation.

4.15.3 Educational facilities

Accessibility of educational facilities was another critical issue the beneficiary community of Quarry Heights raised concerns about. Of the respondents that were asked to comment on the accessibility of educational facilities, 83 percent argued that educational facilities were poorly accessible. The reason behind this was the fact that there were no schools in the area. Children attend schools in Newlands East, KwaMashu and Avoca Hills. There was only one crèche operating in Quarry Heights and there was a complaint that it was overcrowded because it is the only crèche that serviced the whole area. The other 17 percent argued that schools are accessible since children managed to attend schools in the surrounding townships. Although this 17 percent argued that schools are accessible, they complained that they are running short of library in the area. Absence

and shortfall of educational facilities in the area was seen as leading to poor quality of education in the area. The issue that emerged in connection with the poor accessibility of educational facilities in the area was that the dwelling units were small that it could not be used for multi purposes such as sleeping, cooking, studying and other household activities. From the survey that was carried it was indicated that some of the children left school because parents were unable to send them to other schools. Shortage of educational facilities in the area was seen as affecting life quality and lessening the quality of housing environment since it becomes inadequate.

4.15.4 Heath facilities

Heath facilities were also non-existent in the area and it led 87 percent of residents to argue that accessibility of heath facilities was poor. The argument was on the mere fact that there was neither hospital nor clinic in the area. Quarry Heights respondents argued that the clinic was always full to capacity because it also serviced Newlands East community. Sites for clinics were there but no developments that have been made regarding the clinic issue. Another 10 percent of respondents argued that health facilities were accessible since Glearnedale clinic was available in Newland East and clinics in the CBD could be used. The remaining 3 percent also argued that accessibility of the health facilities was very good. This group is made up of people who afford to pay for transport costs since they mentioned that they also used clinics in town and surrounding areas. Inaccessibility and shortage of health facilities in these areas was pitiful because the government is grappling with the issues of HIV/AIDS but the housing environments created

were without facilities which could act as auxiliaries in fighting and making the communities aware of this scourge.

4.15.5 Community hall

A Community hall does not exist in the area. The only place that served as a community hall was the church that was built for Avoca Hills residents. In order to use it they had to pay for its use and the residents complained about high prices that one had to pay for hiring that place.

Figure 4.15: Accessibility of public facilities in Quarry Heights

Accessibility of Public facilities	Poor	Good	Very Good	Total Percentage
Shopping facilities	60	37	3	100%
Sports facilities	90	10	0	100%
Educational facilities	83	17	0	100%
Health facilities	87	10	3	100%
Community hall	100	0	0	100%

Source: Field Survey (2001)

4.16 Availability of Transport in Waterloo and Quarry Heights

Respondents in both Waterloo and Quarry Heights voiced out their feelings about transport services in their housing environment. In both areas the mode of transport operating is the taxi industry. In both areas this mode of transport was greatly criticized because of unfair treatment of passengers by taxi drivers, and of being the major factors

of deaths in the area because of accidents related to it. In Quarry Heights 80 percent argued that transport service was poor and the other 20 percent argued that it was good. As far as Waterloo is concerned 83 percent argued that transport is poor in this housing environment and the remaining 17 percent argued that transport was good. Local residents complained that they were unable to buy goods as much as they liked because taxi drivers did not accept lot of goods to be loaded on taxis. This complaint was mostly from runners of spaza shops in the area. In order to buy lot of goods they had to hire transport, which was not affordable for them. Respondents argued that they would love to have variety of transport operating in their housing environment. According to Mr. Logie Naidoo a local councilor of Waterloo buses once operated in the area and were very good but conflict arose between taxi industry and bus owners.

4.17 Affordability of services

Housing affordability can be defined as the ability of the households to pay the cost without imposing constraints on their living costs (Aboutorabi, 2000). In other words it is the ability of households to occupy housing that meets well established norms of adequacy (given household type and size) at the situation, which leaves them enough income to live on without falling below some property standard. To assess the affordability issue the respondents were asked to respond on the issue of affordability as far as paying for services is concerned since adequate housing must be affordable for households with low-income. In Quarry Heights 73 percent argued that they could not afford to pay for services since some of them had their water and telephone

cut because failing to pay for services. The other 27 percent argued that they could afford to live in the area although they did experience some problems but hoped that one day they get suitable employment that would allow them to pay for services. In Waterloo the same problem was also experienced as they argued that they do not afford to pay for services since others also experienced service cuts. This was a constraint as respondents argued that most of the people in this housing environment were unemployed. Given high levels of unemployment and relatively low wage levels, affording to pay for services was considered costly. Transport cost was also a major issue in connection with affordability. The working people who often travel to and from their work places argued that transport expenses are high and affect their income, which can be used for improvement of the housing environment. By virtue of the fact that Quarry Height and Waterloo lack necessary services respondents argued that location of their housing environment was poor. In their argument it was disclosed that location was not a central issue because they were aware of the scarcity of land and problem of land costs close to the CBD, but mentioned that what was crucial to them was the housing environment that would support them economically and socially. Beneficiaries of both Waterloo and Quarry Heights for enhancement of quality of life and housing environment recommended social and economic services. So far the housing environment provided was strongly criticized for its inadequacy and that it lacked scope for development since it did not satisfy the needs of the client communities.

4.18 Satisfaction and housing needs

In Quarry Heights almost 67 percent argued that the housing environment has not satisfied their needs because of economic and social service shortage. The other 33 percent argued that it has partially satisfied their need for shelter. This group was of the idea that housing environment is better in terms of shelter than Canaan informal settlement where they were staying before. In Waterloo only 63 percent of respondents argued that their housing environment has not satisfied their housing needs and this was attributed to its inadequacy as indicated throughout the analysis. The remaining 37 percent argued that the housing environment has met some of their needs. In both case study areas women constituted the majority of those who complained that the quality of their housing environment was of inferior quality since it short of facilities to supplement their roles. Women argued that argued that their housing environment was a threat to them and had not improved their living conditions.

4.19 Shortage of aesthetic qualities

According to Adebayo and Adebayo (2000) low-cost housing especially in South Africa is arranged along straight lines, is monotonous and lacks aesthetic attributes. This is another aspect that was recognized by the researcher during the field research that both case study areas do not contribute positively to the image of the city. Aesthetic qualities were some of the features these projects were short of. The intention behind provision of these housing environments was to give a starter house upon which beneficiaries would extend. The housing policy states that

it wants to achieve a friendly sociable residential structure that will combat the problem of shacks. The way people extended their houses was critical because while the government is trying to wipe out shacks but people extended their houses using shack-building materials. The way these built housing environment looked was like they do not form part of the city. So for any housing development to be of a good quality it should take the issue of aesthetics into consideration. Planning personnel with strong expertise in settlement planning for low-income groups needs to be used to bring about friendly sociable environments that will bring about improved quality of life. Poor planning, sterility, little vegetation therefore no character, very barren, harsh, no linkage or integration of services, no spontaneous development, little outdoor living because of the shortage of public open spaces, little communal space and narrow twisted roads, grid pattern superimposed on a unstable site could be used to characterize both Waterloo and Quarry Heights.

4.20 Infrastructure developments

Respondents were also asked to comment on the issue of the quality of infrastructure in both Waterloo and Quarry Heights. In both housing environments infrastructure development was said to be of good quality but there was a complaint that roads were too small and did not have pedestrian route along the sides. Observations in Waterloo helped the researcher to identify some of the roads, which were not in good condition because of irregular maintenance and because of poor planning. The roads were without pavements and they were too narrow. **(Figure 4.20(a) shows poor road infrastructure in Waterloo).**

The storm water drainage was also in a bad state as it is blocked by sand because of soil erosion (refer to Figure 4.20(b) showing blocked and broken storm water in Waterloo and Figure 4.20(c) showing` broken storm water in Quarry Heights). Apart from that some of the footpaths are cracking because of uncontrolled drainage system. Poor drainage system was seen as causing other houses to crack.

Figure 4.20(a) shows poor road infrastructure in Wateloo



Source: Field Survey (2001)

Figure: 4.20 (b) shows blocked and broken storm water in Waterloo



Source: Field Survey (2001)

Figure 4.20 (c) shows broken storm water in Quarry Heights



Source: Field Survey (2001)

4.21 Concluding Remarks

To conclude it is crucial to mention that housing is not only a dwelling unit but it also encompasses social amenities. In order for the survival of the beneficiaries

interaction between individual setting and neighborhood is crucial. Oloefse (1999) support this point by arguing that housing is not just considered in terms of physical structure but rather in relation to what it should really represent: it is a home at the level of the individual, neighborhood or community at the level of the group of people and a viable settlement with functional links and a positive interaction in terms of the broader urban environment. The respondents in Waterloo and Quarry Heights confirmed this definition. In both housing environments the beneficiaries argued that they would like to have a housing environment that is integrated in its design not a local level but to the CBD because it is where most of the economic opportunities are located. In concluding, however it can be said that some of the beneficiaries are unhappy about the quality of the built housing environment that it has not met their needs. The following section then would give the conclusion and the recommendation based on the whole study.

Chapter Five

Conclusion and Recommendations

5.1 Conclusion

During the research it was found that the built housing environment for low-income groups have addressed want for shelter to hide their bodies against unwelcoming and inhuman conditions, which is cold, rain, and hot conditions. The findings of the research indicated that housing environments that were created were nothing more than providing shelter to the people and it had not provided some of the needs of the beneficiaries, which were expected to improve quality of life. It was established that rife unemployment was a common factor in these housing environments as the resultant beneficiaries were poverty stricken and that resulted in selling or subletting of their starter houses. Some respondents went as far as mentioning that their quality of life had deteriorated in comparison with to previous ones. Some other respondents mentioned that they still struggled to earn enough to live from day to day and for them a permanent house was not a priority. This brought the researcher to the conclusion that built housing environments for low-income groups were four walls and the roof that did not contribute and support their economic and social needs. This has managed to confirm the hypothesis of the study correct as it states that the quality of built housing environments for low-income does not meet the needs of the beneficiaries. It remains a challenge of housing policy and the implementation process to see to it that housing delivery mechanisms prioritize or put the needs of the beneficiaries on the priority list. There is a high demand that any path or delivery mechanism chosen is informed by

the realities facing the multitudes of people on the ground. If path chosen is inappropriate in combating problems of the beneficiaries there is a grave danger ahead and will make resent attempts worthless and unrecognizable because of having not addressed the actual problems faced by the people.

Quarry Heights and Waterloo lack indicators set by the researcher of the quality of built housing environment that has a potential to bring about quality of life to the beneficiaries. Beside that the theories used fit to the study. The government approach to housing provision is based on the Welfarist theory although there has been failure to provide quality. The government has taken prime responsibility to house the poor by providing them with shelter. The failure of the government has been caused by the fact that some of the departments and people on the ground are not interested to help. This is also one of the views of the neoclassical theorists as they advocate that the performance of certain individuals within the system is the cause of the failure for the distribution of the resources. In the interview held with Mr. Winston Oak it emerged that failure is caused by the fact that it takes time to provide social amenities, which are crucial for human survival. The Nimby syndrome mentioned by Mr. Makhathini that land still exists but the wealthy classes do not want the poor to be located close to their housing environment was witnessed in Newlands East community as they opposed the development of Quarry Heights. In that regard the neoclassical theorists call for the government to intervene so that there would be no bias in the distribution of the resources. In the South African context where the

government is the main distributor of resources, other stakeholders such as banks and other private organizations should be called to assist in providing housing of good quality that is expected to improve the quality of life for the beneficiaries.

To conclude the following comment with regard to future housing policy and delivery mechanisms is worth mentioning. There is a great need to pour lot of money to areas of low-income groups in order to uplift their social and economic status. Certainly this is grounded on the interviews held with BGM. Condev and Effingham Housing Developers, as it emerged that housing finance was an obstacle in achieving quality. Some of the private developers are making exit or retreat from providing housing for low-income groups because they are not profiting from it. Economic infrastructure such as market stalls, a shop to name but a few is crucial. Despite that the issue of location is critical since if people are located away from the opportunities we increase costs and deprive them means of livelihood.

5.2 Recommendations

Some of the housing problems for low-income groups, which the study comes with, are associated with the city form or structure. In the previous Chapter it was shown that people suffer as commuters since it means traveling long distances to and from the centers where they can get economic opportunities. In Quarry Heights and Waterloo it was found that people are facing the problem of being commuters and the little income they get is spent on traveling to the areas with opportunities. The solution to this problem could be to restructure peripheries by bringing the city to people

rather than people to the city. This means that work and commercial, social and cultural facilities must be incorporated in the housing environment for low-income groups. During planning and development of low-income housing socio-economic and cultural issues need to be considered hand in hand with the principles concerning natural environment. It is true that land is the diminishing and scarce resource in urban areas particularly in Durban where the study was been carried out. Accompanying the shortage of land is the urbanisation process, which is growing with ever increasing intensity, and it is coupled with shortage of job opportunities. Building cities within cities would be one way of helping the low-income groups to recognise economic opportunities that can improve the quality of life within their housing environment. The point that is made in this part is not necessarily to locate people in the Central Business District but it is to create job and economic opportunities within the areas of low-income groups. As it was indicated on the analysis the respondents showed that they do appreciate shelter provision that has been provided for them but they also indicated that they still suffer from other things, which commuting is one of them since they have to pay extra transport costs.

Dewar (1995) argues that in order to deal with the problems that are prevalent in the built housing environment we need to ask ourselves how we have gone wrong. It is true that ideological principles of apartheid have exacerbated urban problems in South African towns and cities. The removal of apartheid is not going to be solution for solving urban housing problems. At the heart of the problem is the way in which planning of urban settlement was approached within the

tenets of the conventional modern town planning movement. The kind of the built housing environment we have today is the result or has been perpetuated by fragmentation of decision making more especially where built housing environment is characterized by disintegration. According to Panday (2002) different agencies make decisions about different urban components (utility, services, housing, transport, libraries, education, health, community services, fire services and so on) in relative isolation from each other and with each agency frequently pursuing significantly different agendas. This is the reason we have the housing environments such as Waterloo and Quarry Heights today. The thrust of each department is towards making better or optimization of the part with which it is concerned rather than optimizing the whole. In order to create a good quality of built environment that will benefit the lives of the beneficiaries it is crucial to group all sectors involved in the planning of the built housing project. If this kind of action plan is not pursued development at local scale even at provincial level will still be characterized by disintegration or fragmentation.

Quality of housing environment in Waterloo and Quarry Heights was a big issue. The contractors that were involved during the construction of these housing environments did not provide quality. According to Mohamed (1997) the kind of built environment that we have today particularly the one that has been built by developers and the emerging contractors is of poor quality. It is argued that this is because there is no statutory body overseeing building standards and few municipalities are said to be having enough building inspectors to perform the duty. If there are

any statutory bodies it could be that they lack skills. Mohamed argues that this function is often given to project managers who have interest in seeing the project proceeds rather the quality. Some developers also cut corners so those projects become viable business opportunities. Apart from that it is argued that where emerging contractors are responsible for the bulk of housing construction problems usually arise because contractors are not properly trained in the construction field (Mohamed, 1997). So the above issue needs to be addressed in order to achieve quality product, which is the built housing environment. There is a great need to give enough training to contractors or homebuilders so that quality product is achieved.

In the analysis chapter its was established that beneficiaries lack management skills of their housing environment. The waste management system proved to be one of the poor services in both Waterloo and Quarry Heights. The small patches of land that were left when the construction was over are dirty or filthy. These lost spaces are turned into dumping grounds and make the housing environment monotonous in outlook. So there is a great need to build the capacities of the beneficiaries to take care of their housing environments. In some other areas water pipes are broken and that aggravate the situation for low-income groups and it affect the quality of housing environments. It was found that at times if there are broken services it takes time to be repaired because they always expect the municipal water department to come and repair.

There is a need of an approach that would provide long-lasting employment opportunities rather than short-term

employment opportunities that leave beneficiary communities with nothing but stressful living conditions. Money spinning kind of environment created for low-income groups can bring about change to the lives of the beneficiaries in these housing environments. This is based on the fact that people who are involved in the informal sector stated that if market stalls can be provided for them they can generate more income than they do. The issue at hand is not about building heavy industries in these areas but economic opportunities should be created through labour intensive projects, promotion of local entrepreneurs, support for the informal sector and encouragement of decentralized business opportunities on the main activity corridors and nodes. This is not only about giving job opportunities to beneficiary communities but it is projected to cut and trim down costs for traveling to and from urban areas to buy groceries and other households' utensils needed for human survival.

In both case studies it was found that women are still underprivileged since their needs are not catered for. Any housing delivery mechanisms need to address the needs of women. Lack of amenities to support women's role is the critical issue and leaves them unhappy about their status in the community. In the case of Waterloo, only one day care center that has been built and women admitted that they find it difficult to leave in that area. They even criticised the place where the day care center is located that it is difficult to access it since it is not within the area. Therefore it is of paramount importance to provide social services within easily reached position so that roles of women are not disrupted.

Housing development for low-income groups should not rest on the hands of the Housing Departments only, but other stakeholders or government departments should be involved to bring other services such as schools, clinics shopping facilities to name the few. In short a vigorous and a balanced approach to housing provision for low-income groups is required. This is based on the fact that Waterloo and Quarry Heights are running short of these services because of fragment decision-making. On that regard integrated approach to housing delivery should be pursued in order to achieve quality. In order to bring quality the question of workmanship in the provision of housing for low-income groups has to be questioned. This is based on the fact that the development agents that were involved during the construction of the Quarry Heights and Waterloo did not provide quality and where people have extended for themselves quality remains an issue. In the interview held with Mr. Makhathini it emerged that this is caused by the shortage of skills. Mr. Makhathini mentioned conflicting agendas that while quality is needed unskilled people are employed with an intention to give job opportunities as the result quality is affected. Sacrificing with quality means more cost tag in future to the beneficiaries. In that regard it is crucial to give adequate training to the people in order to bring about qualitative housing environment. The principle of breadth versus width where the government is trying to reach a marked number of houses delivers quantity instead of quality. This approach tackles the want for shelter not the needs of the beneficiaries because attempts are made to cut every possible corner regardless of the consequences in order to reach the target number. Provision of housing becomes a case of how many houses per day as a

substitute of how many days per house as the result quality is affected. On that regard it is crucial to use an approach that will provide quality as well as quantity. This is based on the findings after an interview that was held with Mr. Makhathini. Social services and economic infrastructure have to be provided before or shortly after the client community has occupied the area. This recommendation is based on the fact social and commercial site do exists in the both Quarry Heights and Waterloo but no developments to date. The housing environments consist of houses and few services, which are inappropriately located. According to the interviews with the both councilors of the case studies there has been some delays from different departments to locate amenities such as schools, clinics libraries to mention a few. In concluding it is crucial to mention that since the built housing environments created are of inferior quality the implementers and policy makers are left with a challenge to see to it that future housing developments do not constraint or impact negatively the lives of the beneficiaries.

Bibliography

Aboutorabi, M., (2000) A Study of Housing Affordability for Low-income Household in Khayelitsha Township, 2nd Southern African Conference on Sustainable Development in the Built Environment, Perry Barr, University of Central England

X Adebayo, A and Adebayo, P., (2000) Sustainable Housing Policy and Practice - Reducing Constraints and Expanding Horizons with Housing Delivery, 2nd Southern Conference of Sustainable Development in the Built Environment, Pretoria
Allen, W.A., Courtney R.G., Happold E., and A.M., Wood (1992) A Global Strategy for Housing in the Third Millenium
ANC-COSATU- Civics (1991) A Summary of the Proceedings of Housing Workshop Hosted by ANC-DEP, Soweto

X Built Environment Support Group (2000a) Towards the Right to Adequate Housing, Durban and Pietermaritzburg, University of Natal

Built Environment Support Group (2000b) The Right to Adequate Housing Starts with You, Durban and Pietermaritzburg, University of Natal

X Cox, K. R., (1979) Location and Public Problems, Oxford University, Maaroufar Press

X Dewar, D and R .S., Uytenbogaard (1995) Creating Vibrant Urban Places, Cape Town

X Dewar, D. (1991) Political Changes and Urban Poor in South Africa, Urban Forum 8 (1)

X Department of Housing (1994) The White Housing Paper, A New Policy and Strategy for South Africa

Environmental Health Consultants (1998) Report made for Built Environmental Support Group, University of Natal, Durban

- Forder, A., Caslin, T., Ponton, G., Walklate (1984) Theories of Welfare, Routledge and Keegan Paul, London
- Galtung, J., Preiswerk R., and M. Wemegah (1982) Different theories and practices of Development, France, Imprimerie, des Presses Univesitaires
- Haffajee, F., (1997) Build it Yourself in the land of Canaan, Mail and Guardian Newspaper, October 13
- Lazenby, M., (1977) Housing People, AD, Donker, Johannesburg
- X Mabogunje (1978) Shelter Provision in Developing Countries, Unwin Brother LD, Salisbury
- Main, H., and W. W. Williams (1994) Environment in the Third World Cities, John Wiley and Sons LTD, Australia
- Malan, L., (2000) Deciding What Matters: Key Perfomance Indicators with the People of Khayelitsha: 2nd Southern Conference of Sustainable Development in the Built Environment, Pretoria
- Mills, G. (1993) Housing in South Africa: Linking Building Form to Delivery Process, Urban Forum, Witwatersrand University Press, Johannesburg
- Miraftab, F., (1994) Housing preferences of female heads of low income families in Guadalajara, Mexico, Paper Presented to the International Sociological Association, Mazingira Institute and UNCHS (Habitat) International Seminar on Gender, Urbanisation and Environment, Nairobi
- X Moser, C., and L. Peake (1987) Women Human Settlements and Housing, Tavistock, London
- Mohamed, H., (1997) Integrated Development Planning: A handbook for Community Builders, Braamfontein, Planact
- Moller, V., (1995) Indicator for Africa: The October Household Survey
- Nevitte, A. A., (1997) Housing in Welfare State, Urban Studies

Pama, R.P., S., Angel., and J.H., De Goede (1977) Low-income Housing: Technology and Policy, Pergamon Press

Patterson, J., (1992) Quality of Life and Housing Satisfaction in Selected Canadian Cities: Implication for Housing and Urban Development Policies, University of Winnipeg, Canada

SA Builder (1990) Quality of Workmanship Questioned in Low-cost Housing

X Sowman and Urquhart (1998) A Place Called Home: Environmental Issues and Low-cost Housing, University of Cape Town,

Spiegel, A., V., Watson, and P., Wilkinson (1996) Devaluing Diversity: National Housing Policy and African Household Dynamics in Cape Town, Urban forum: Witwatersrand University Press

X Oelofse, C., (1999) Environmental Considerations in Low Cost Housing Projects, University of Natal, Durban

Ozo, A., O., (1990) Low-Cost Urban Strategies in Nigeria, University Of Benin, Pentagon Press

Office of the Mayor, (2001) EtheKwini Municipality Long Term Development Framework: An Overview of Key Development, Unicity Vision and Strategy, Durban

Van Vliet, W., and J., van Weesep (1990) Government and Housing: Development in Seven Countries, Sage Publications, USA

Van Vliet, W., (1988) Women, Housing and Community, Brookfield, Avebury, USA

APPENDIX

An evaluation of the quality of built housing environment and improvement of quality of life for the beneficiaries, Case Study of Waterloo and Quarry Heights: Questionare addressed to the beneficiary communities.

Please tick appropriate answers and fill in the spaces provided.

1. Gender

Male
Female

2. Age

Less than 21
21 and above

3. Are you employed?

Yes	
No	

4. Where is your place of employment?

Town
Local area (<1km)
Other (specify)

5. How much do you spend on transport per month?

R0-300
R400-R700
R800-R1100
R1200 and above

6. Type of employment:

Formal
Not employed
Pensioner
Other (Specify)

7. How long have you lived in this place?

0-2 years
3-4 years
5 and above

8. Before living here where did you live?

Township
Rural areas
Informal settlement
Other (Specify)

9. Why did you move from your original place?

10. How would you compare quality of your previous housing environment and this one?

Low

High

Very high

11. Do you have any construction defects in your house?

Yes

No

If yes what are they?

.....
.....
.....

12. How do you feel about your plot size?

13. Do you have any constraints caused by you plot size?

Yes

No

If yes what are they?

.....
.....
.....

14. What are the positive aspects of your plot?

15. If you had a bigger plot what would you do with the remaining part after construction of your house has been completed?

16. Are you satisfied with the quality of the material that was used in building your house?

Yes

No

If yes what are they?

.....
.....
.....

17. How many household members reside in this house?

18. How is the level of privacy?

Poor

Good

Very good

Excellent

Why?

.....

19. How do you feel about the orientation of your house?

Poor

Good

Very good

Excellent

Why?

.....

20. How would you define the level of security in this area?

Poor

Good

Very good

Excellent

Why?

.....

21. How would you define residential environment in meeting your social and economic needs?

Poor

Good

Very good

Excellent

Why?

.....

22. How do you feel about service delivery in this area?

Issues	Poor	Good	V.Good
Electricity supply			
Waste collection			
Water/sewerage			

23. Do you have waste collection service in this area?

Yes	No
-----	----

24. Are you satisfied about waste removal service in this area?

Yes	No
-----	----

25. Do you have a telephone in your house?

Yes	No
-----	----

26. Are there any crime incidents in this area?

Yes	No
-----	----

27. Where do you do most of your shopping?

28. How do you feel about the level of shopping facilities in this area?

Unsatisfactory

Satisfactory

Very satisfactory

Support your answer

.....

29. Does this housing environment provide easy access to job opportunities?

30. Do you have enough educational facilities in this area?

31. Do you have recreational areas in this housing environment?

32. Are they sufficient?

33. How would you define transport services in this area?

Poor

Good

Very good

Excellent

Why?

.....

34. How would you define accessibility of the following?

Services	Poor	Good	V.Good
Sport facilities			
Educational facilities			
Entertainment			
Clinic/health facilities			
Community hall			

Why?

.....

.....

.....

35. How much do you spend on transport travelling to and from work?

36. Do you afford to pay for the services?

Yes	
No	

Support your answer.

.....

.....

.....

37. Do you afford living in this area?

Yes	
No	

38. How much do you feel about the location of your housing environment in relation to necessary services?

Poor

Good

Very good

Excellent

Why?

.....

.....

.....

39. Has this housing environment satisfied your housing needs?

40. What do you think should be done in this housing environment to better meet the needs and to improve the quality of life in the housing environment created?

Thank you for your cooperation

Interview with an official from Metro Housing Department, Executive Director. Maurice Makhathini

1. How has Metro contributed to the well being of the low-income groups residing in Durban Metro?
2. Are there any dwelling standards recommended by Metro Housing Department in relation to the quality of built housing environment?
3. How does Metro Housing Department help the low-income groups to access well located land for housing development that can improve the quality of life?
4. What constraints does Metro Housing Department experience in getting the land for low-cost housing?
5. How can it be tackled?
6. What level of services does Durban Metro Housing Department recommend that can improve the quality of built housing environment? Why?
7. What would be your comment on the quality of built housing in general that has been created?
8. What has been done by Metro Housing Department to support people to generate income?
9. The vision of Durban Metro Housing Department is to ensure that all people have secure tenure, services, and support in their housing environments. What plans are in place to achieve this vision?
10. To what extent has this goal been achieved?
11. How can you be assisted to perform better and where would this assistance come from?
12. What would you recommend for future housing development for low-income groups to take into account in meeting the needs of the beneficiaries?

Interview with Assistant Director: Policy Section: Winston Oak

1. Do you think the subsidy amount is enough to help the beneficiaries to access qualitative housing that can improve their life quality?
2. Why is the subsidy amount not responding to inflation?
3. What effect has that caused to the housing provision programmes?
4. Do you think this housing environment has met integrated development objectives that are mentioned in the housing policy? Support your answer?
5. Has the built housing environment for low-income groups achieved policy 's intentions in terms of quality?
6. What does the Provincial Housing Department do to improve the quality of these built housing environment so as that the quality of life for the beneficiaries is improved?
7. How do you make sure that the developers bring about qualitative housing?
8. Do you think the provision of more dwelling units rather than adequate is a good way of combating housing backlog?
9. Would you refer to this housing environment as adequate housing as the housing policy requires
10. Did you bring other government departments that could help to provide services needed for housing environment when this housing environment was under construction?
11. What assistance did they offer in connection with social services provision if there is any?

Local Concillors

Waterloo: Logie Naidoo

Quarry Heights: Mr Ganesh

1. Do people have all social and commercial services in this area?
2. Do you have enough social infrastructure and services such as schools, roads, public spaces etc that support this housing environment?
3. Are there any programmes intended to help people to generate income within this housing environment?
4. Do you have any complaints from the community in relation to the quality of built housing environment?
5. What has been done to help the situation?
6. What do you feel about the level of service delivery in this area?
7. Do you think this housing environment is of good quality that it can improve the beneficiaries' quality of life?
8. Who is responsible for maintenance of the services?
9. Do you think it is well maintained?
10. Who is responsible for servicing of this area as far as waste removal is concerned?
11. Do you think it is well serviced?
12. Do you feel you have enough educational facilities in this area that can service the whole population?
13. How many recreational facilities in this area?
14. What area they?
15. What do you think should be done to improve this housing environment so as to improve the quality of life for the beneficiaries?
16. Do you feel this area has got enough economic opportunities to help beneficiaries to generate income so that they can improve their quality of life?

Developers

1. When was this housing environment created?
2. Why was this area selected for housing development?
3. Do you think this land is well located for housing of low-income groups?
4. Was the community involved during the selection of this area?
5. Was the socio-economic survey done before this housing environment was created?
6. After a socio-economic survey what was found to be the needs of the beneficiaries?
7. How much did the whole housing project cost?
8. Was the subsidy amount enough to complete all the processes that were needed for construction?
9. Do you think the needs of the community were addressed by this housing environment? How?
10. If no what would you attribute to the failures?
11. As a developer how did you make sure that the housing environment provided was going to be of good quality?
12. Where did you fail and where did you succeed in achieving housing objectives?
13. What do you think about the quality of dwelling units?
14. Were all other departments that could bring other services brought in when this housing environment created?
15. Which Departments were involved during the construction of this housing environment?
16. Was the issue of integrated development considered when this housing environment created?
17. Do you think this housing environment is integrated, as the housing policy requires?
18. What would you comment on the physical environment that was created?
19. What would you recommend for future developments in order to meet the needs of the beneficiary communities?
20. In retrospect what would you do differently as the developer in this project?